Proceedings of the United States National Museum

SMITHSONIAN INSTITUTION • WASHINGTON, D.C.

Volume 123 1967 Number 3604

Revision of the Beetles Of Genus *Glyptoscelis* (Coleoptera: Chrysomelidae)

By Doris H. Blake

SMITHSONIAN PRESS

Proceedings of
the United States
National Museum

SMITHSONIAN INSTITUTION • WASHINGTON, D.C.

Volume 123 1967 Number 3604

Revision of the Beetles Of Genus *Glyptoscelis* (Coleoptera: Chrysomelidae)

By Doris H. Blake
Honorary Research Associate, Department of Entomology

In a paper on the Coleoptera of Fort Tejon, Calif. (Proc. Acad. Nat. Sci. Philadelphia, vol. 9, p. 81, 1859), LeConte briefly described the genus *Glyptoscelis* as follows: "The genus *Glyptoscelis* (Chevrolat) [Dejean Catalogue, 3rd ed., p. 438, nomen nudum, 1837] is distinguished from the other genera allied to *Eumolpus* by the mouth not being covered beneath by the prosternum, by the claws being toothed, and by the tibiae being longitudinally sulcate. The head is not sculptured as in *Heteraspis* [*Graphops*]."

The first species, *pubescens*, was described as early as 1777 by Fabricius under *Eumolpus*. Linneaus in 1788 gave this species another name, and he was followed by Olivier in 1808 with still another specific name, and our own early American entomologist, Thomas Say, in 1827 gave a fourth name to this species, which is widespread over the eastern half of the United States. Say also described two other species from the eastern and middle states under *Eumolpus*. In LeConte's paper of 1859 he described *Glyptoscelis albida*, the first species from the West Coast. In 1878, nearly 20 years later, he described *G. longior*, a second western species. In the meantime, in

1873, Crotch, adopting LeConte's generic name *Glyptoscelis*, described from California three more species of this predominately West Coast genus. Thus, very early in American entomological history the genus *Glyptoscelis* was recognized by the leading coleopterists of the day. Both Blaisdell and Van Dyke have added new western species, and most recently N. L. K. Krauss in 1937 in the "University of California Publications in Entomology" has written a short revision of the North American species thereby adding three new subspecies. In the East, Blatchley and Schaeffer have each described a species from the middle and southern states respectively. Schaeffer's species from Texas belongs to the group of *Glyptoscelis* found in Mexico, and Blatchley's species (*G. liebecki*) is undoubtedly the same as one described by Baly (*G. albicans*) in 1865. Baly also described two species from Venezuela and Colombia in 1865. Jacoby in the "Biologia Centrali-Americana" in 1882 described *G. mexicana* from Mexico, and *G. chontalensis* from Nicaragua, and in 1897 he described *G. gigas* from Brazil and *G. paraguayensis* from Paraguay. In 1900 he added *G. dohrni* from Colombia. The French entomologist Lefèvre added *G. gayi* from Chile, a species which was collected by the Chilean entomologist. This represents the total of the species already described except for two or three wrongly ascribed to the genus from the West Indies.

There has been gradually accumulating an extensive collection of specimens of the genus in the California Academy of Sciences, chiefly from the western states but with some from Sonora and Sinaloa in Mexico. Along with this material, I have studied the collections at the U.S. National Museum, the Museum of Comparative Zoology, and the University of Washington. The result of this study of large series has shown that the western states and also western Mexico represent the center of the greatest number of species of the genus, and furthermore it shows that there is a considerable number that have not been recognized or have been confused with already described species. No one up to now apparently has studied the aedeagi, which show clear differences between very similar species. For instance, in the two species *G. aeneipennis* Baly and *G. fasciculatis* Baly from Colombia and Venezuela, the differences in the beetles are so slight that Jacoby has united them under one name. But the aedeagi are entirely different, although even I, who know this, cannot tell with a certainty by their outward appearance which is which. In general, *Glyptoscelis* is a very homogeneous genus, many species looking more or less alike and at first glance not readily distinguishable.

All the species of *Glyptoscelis* are comparatively large, measuring from 5 to 14 mm. in length. In color they are deep reddish brown or piceous, sometimes with a coppery or distinctly aeneous green

lustre, sometimes somewhat bronzy, or just shining black. And all of them are pubescent, usually with coarse, white, appressed hairs, sometimes intermixed with yellowish or brown hairs. Rarely is the pubescence in the form of broader scales. There is often a pattern made by the color of the brown and white pubescence, with thicker patches that form spots or vittae, usually on the elytra, but sometimes also on the pronotum. The arrangement of the hairs on the pronotum is significant. In the Mexican and South American species there is usually a bare median line that is impunctate down the pronotum and the hairs spread out from this on each side horizontally. In the more northern species the hairs in the median part of the pronotum are vertically arranged. In *G. squamulata* the pubescence on the pronotum is without any perceptible pattern, being very dense and the hairs broad and scalelike. In only one species are the hairs outstandingly erect over the upper surface, and this is in a peculiar cylindrically shaped species that is probably wingless. It is represented by only one specimen collected at Cotati, Sonoma County, Calif.

These stout robust beetles have a broad head with wide-set eyes and a flat front usually with a median depressed line down from the occiput, a convex prothorax with somewhat rounded or occasionally nearly straight sides, a short broad scutellum, and long, convex elytra. In a few species the tips of the elytra are narrowly prolonged. Always the beetles are more or less coarsely and densely punctate throughout. The legs are short and stout, tibiae without emargination but with a groove, the tarsal joints not very long, and the claw joint, with one exception, toothed. Only in *G. cryptica* is the claw simple. In the location of this claw tooth, there is considerable variation. In some species the claw has a bifid appearance, the tooth being near the apex; in others the tooth is short and near the base, and in some there is only a very tiny median tooth. Most often there is a well-developed tooth about midway up the claw, not as long as the claw.

As already stated, the aedeagus is of prime importance in separating the species. The shape of the tip is not only of specific value but it tends to separate the species into groups. For example, in *G. squamulata*, *G. alternata*, *G. albida*, and *G. cryptica* there are similarly pointed apices to the aedeagus. And the Mexican species from Sinaloa and Sonora, as well as *G. mexicana* from Oaxaca and *G. prosopis* from Brownsville all have similarly shaped tips to the aedeagus. This does not hold, however, in the case of the two South American species already mentioned, *G. aeneipennis* and *G. fascicularis*. Now and then there occurs a very divergently shaped aedeagus such as is found in *G. dohrni* from Colombia, in *G. gigas* from Brazil, and in *G. gayi* from

Chile. Each one of these species is rather isolated from other species and otherwise unusual in appearance.

It might be noted here again that, although the genus extends from Canada to Chile, the majority of the species is found in the western states, particularly in California. In the East there are only four species: (1) *G. pubescens*, which ranges from Canada to the Gulf States and from the Mississippi River to the Atlantic Ocean; (2) *G. barbata*, which occurs through the Middle States from Pennsylvania to St. Louis, Mo.; (3) *G. albicans*, which definitely ranges from the Mississippi Valley to Texas; and (4) *G. cryptica*, which is known from west of the Mississippi River in the prairie states. Only a few species have been described from Mexico and Central America, and a few widely separated species from South America. More will probably come to light in the future, but it is unlikely that they will amount to the plurality of the species of our western states.

Not much is known of the biology of any of the species. In the East, *G. pubescens* occurs on various species of pine, *G. barbata* on pine and also hickory. On the West Coast, Blaisdell reported *G. sequoiae* on *Sequoia sempervirens*, and in the Sierras there is one or possibly two species that occur on *Libocedrus decurrens* and *Juniperus occidentalis*. Other species in the Northwest are reported on various species of pine and on fir trees. In Texas the name indicates that *G. prosopis* was found on mesquite. Another species from Argentina has also been collected on *Prosopis*. *Glyptoscelis parvula* is recorded on wild rose and willow, and *G. squamulata* also on willow. *Glyptoscelis illustris* is recorded several times as taken on *Pinus ponderosa* and also on *Juniperus occidentalis*. And two small undescribed species were collected on a pure stand of *Artemisia tridentata* (sagebrush). Thus, in general, it may be concluded that *Glyptoscelis* occurs on woody shrubs or trees, especially coniferous trees. The larvae are underground root feeders.

Krauss in his revision of the species north of Mexico has designated *Glyptoscelis albida* as the type of the genus. It was the first species described by LeConte when he described the genus.

I wish to thank the following persons for lending me specimens for this study: Hugh B. Leech, California Academy of Sciences; Melville H. Hatch, University of Washington; P. J. Darlington, Jr., Museum of Comparative Zoology; and R. D. Pope, British Museum (Natural History).

Key to United States Species of *Glyptoscelis*

1. Claws simple, not toothed, elytra narrowly prolonged at apex, most noticeable in male (Prairie States) . . . . . **cryptica** (Say)
   Claws toothed, elytra not prolonged at apex 2

2. Pubescence erect and fine, not obscuring surface below, elytra without humeral prominences (Sonoma Co., Calif.) . . . **cylindrica,** news pecies
Pubescence appressed and coarse, more or less obscuring surface below, elytra with well-marked humeral prominences 3
3. Pubescence on pronotum consisting of broad, often truncate scalelike hairs . 4
Pubescence on pronotum not broad or in form of scalelike hairs 5
4. Pubescence on elytra white with lines of brown hairs forming vittae. (Inyo Co., Calif., and nearby) . . . . . **alternata** Crotch
Pubescence on elytra without lines of brown hairs (California, Nevada, Arizona) . . . . . **squamulata** Crotch
5. Large (9–11.5 mm.) pubescence on elytra with pattern of dark and white hairs 6
Usually smaller, without noticeable pattern of pubescence on elytra, hairs more evenly distributed 7
6. Pubescence on elytra with pattern of white hairs along base, sides, and suture and short white vittae near apex, rest of elytra with scanty, inconspicuous dark hairs, not hiding coppery surface (California and Oregon). **illustris** Crotch
Pubescence on elytra white with coarse yellowish hairs and traces of dark vittae near apex hiding surface (Inyo Co., Calif.) . . . **aridis** Van Dyke
7. Beetle distinctly reddish brown with white pubescence (southern Illinois to Texas) . . . . . **albicans** Baly
Beetle either reddish brown with brown pubescence or piceous 8
8. Beetle reddish brown with brown pubescence (New York to St. Louis, Mo.). **barbata** (Say)
Beetle piceous usually with white pubescence that may be intermingled with brown hairs 9
9. Large (7.5–11 mm.), with prothorax as wide as elytra, piceous, lightly covered with brown and white pubescence (Canada to Gulf of Mexico, Atlantic Ocean to Mississippi River) . . . . . **pubescens** (Fabricius)
Smaller (from Mississippi River to Pacific Ocean) 10
10. Aedeagus truncate at apex (on *Artemisia tridentata;* Oregon, Washington, Idaho, British Columbia) . . . . . **artemisiae,** new species
Aedeagus not truncate at apex 11
11. Pubescence on pronotum with more or less distinct median bare line from which hairs spread outwards and downwards (Brownsville, Tex.). **prosopis** Schaeffer
Pubescence on pronotum without median bare line 12
12. Beetle with coppery lustre, pubescence never white, varying from yellowish to dark brown (on *Sequoia sempervirens,* from about San Francisco, Calif., to Oregon) . . . . . **sequoiae** Blaisdell
Beetle either piceous black or bronzy, pubescence usually white or mixed with brown hairs 13
13. Aedeagus triangular at apex (California) . . . . . **albida** LeConte
Aedeagus not triangular at apex 14
14. Occiput of head nearly smooth with punctures only along median line; elytra with white pubescence forming vittae (on *Artemisia tridentata;* Idaho) . . . . . **paula,** new species
Occiput of head densely punctate 15
15. Aedeagus broadly rounded at apex 16
Aedeagus not rounded at apex 20

16. Small (5–7 mm.), with short stout antennae not extending much below humeri, thorax contracted at base (on rose or willow; area about Sacramento, Calif.) . . . . . **parvula** Blaisdell
Usually larger with antennae reaching below humeri, thorax not noticeably contracted at base 17
17. Elytra with hairs forming white vittae (Idaho, Wyoming). **idahoensis,** new species
Elytra without white vittae 18
18. Claw with tooth near base (Klamath, Oreg.) . . . . . **vandykei** Krauss
Claw with tooth at middle or near apex 19
19. Pubescence not coarse, strawcolored or darker, surface shining with aeneous or bronzy lustre (on *Juniperus* or *Libocedrus;* Sierra Mts.). **juniperi,** new species
Pubescence coarse and white with a few yellowish hairs; surface piceous with faint bronzy lustre (Colorado, Utah) . . . **coloradoensis,** new species
20. Elytral pubescence mostly dark brown with a few white hairs, giving beetle brown look (Humboldt Co., Calif., to British Columbia, east to Montana). **septentrionalis,** new species
Elytral pubescence not dark brown, appearing grayish 21
21. From 7–8 mm. long (Cascade Range in Shasta, Siskiyou, Trinity Cos., Calif.) . . . . . **peperi,** new species
From 5.5–6.5 mm. long (from middle of Oregon eastward to Idaho, Wyoming) . . . . . **longior** LeConte

Glyptoscelis pubescens (Fabricius)

FIGURE 1

Cryptocephalus pubescens Fabricius, 1776, Genera insectorum, p. 220; 1801, Systema eleutheron, vol. 2, p. 43.
Eumolpus hirsutus Gmelin, 1788, edition of Linnaeus, Systema natura, vol. 1, p. 1703.
Eumolpus hirtus Olivier, 1808, Entomologie, vol. 6, p. 906.
Eumolpus pini Say, 1827, Journ. Acad. Nat. Sci. Philadelphia, vol. 5, p. 295.
Glyptoscelis hirtus Crotch, 1873, Proc. Acad. Nat. Sci. Philadelphia, vol. 25, p. 35.
Glyptoscelis pubescens Horn, 1892, Trans. American Ent. Soc., vol. 19, pp. 202, 203.—Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, pp. 23, 24.

From 7.5 to 11 mm. in length, oblong oval, shining piceous with a bronzy or sometimes faint rosy lustre; legs and antennae deep reddish brown, prothorax with dense, deep, and coarse punctation, elytra a little less coarsely and less densely punctate, especially toward the apex; surface not entirely concealed by brown and white pubescence that is semierect; prothorax nearly as broad as elytra, not very convex, and with well-rounded sides.

Head with interocular space considerably more than half width of head, eyes emarginate near antennal sockets; a median depression from which a median line up to occiput, punctation over front and occiput dense, deep and variable in coarseness; a whitish pubescence about eyes, brownish in middle of front, labrum reddish brown. Antennae extending well below humeri, seventh joint long, outer joints wider and often deeper brown. Prothorax not as convex as in

most species of the genus, at middle nearly as wide as elytra, sides well rounded, surface shiny, very densely, deeply and coarsely punctate, punctures tending to be oval, not entirely concealed by the brown and white pubescence that in places is semierect. Scutellum black with a few fine white hairs. Elytra with prominent humeri and short intrahumeral sulcus, a slight depression below basal callosities and another below scutellum; punctation usually coarse, deep and dense in basal half, becoming much finer towards apex; pubescence of mixed brown and white semierect coarse hairs, not scales and not hiding punctation. Body beneath with thick white pubescence not entirely obscuring the shiny punctate surface beneath. Legs reddish brown. Length 7.4–11 mm.; width 3.7–5.3 mm.

Type: One specimen in the Fabricius collection at Kiel, Germany.

Type-locality: "Habitat in America boreali."

Other localities: ONTARIO: Toronto, R. J. Crew, M. C. Van Duzee. QUEBEC: St. Johns, June 1, 1902; F. Knab. NEW HAMPSHIRE: Exeter, Durham, A. S. Abbott. MINNESOTA: Itasca. MASSACHUSETTS: Brookline, Boston; Mt. Toby, Sunderland, May 12, 1918, H. M. Parshley; Chicopee, May 1900, F. Knab; Concord, Forest Hills, F. X. Williams; Framingham, G. M. Greene; Springfield, May 12, 1900; Stoneham, F. A. Sheriff; Stoughton, June 1919, D. H. Blake; N. Saugus, D. H. Clemens; Worcester, F. Knab. NEW YORK: West Point, June 26, 1912, Wirt Robinson; Ithaca, F. H. Chittenden; Buffalo; Trenton, Hubbard and Schwarz; on pine, Wyoming Co., June 1900, G. M. Greene; Bear Mt., July 2, 1924; Hamburg, May 3, 1913, Van Duzee. NEW JERSEY: Da Costa, June 30; Atsion, June 26, 1950, G. M. Greene; Glenwood Lake, Hornerstown, Lakehurst, Van Dyke; Iona, May 26, 1902; Malaga, Apr. 26, 1925, R. R. Mason. PENNSYLVANIA: Wind Gap, June 25, 1930, G. M. Greene; Bedford Co.; Mt. Pocono, Pocono Lake, G. M. Greene; Water Gap; Dauphin Co., May 21, 1927, J. N. Kault; Effort, July 22, 1932, G. M. Greene; Tannersville, June 21, 1948, G. M. Greene. MARYLAND: Bladensburg, Apr. 6, 1919, L. L. Buchanan; Chesapeake Beach, May 6, 1906, F. Knab. WASHINGTON, D.C.: Petworth, W. Middleton; Hubbard and Schwarz on *Pinus virginica*. VIRGINIA: Charlottesville, R. C. Smith; Falls Church, J. M. Green, June 3, 1917; Newport News, H. B. Barley, Norfolk, May 21, 1931, H. G. Walker; Fredericksburg; Ft. Monroe, Apr. 19, Hubbard and Schwarz; Vienna, Apr. 15, 1942, on *Pinus taeda;* Luray, Hubbard and Schwarz; St. Elmo, April. NORTH CAROLINA: Asheville, on *Pinus rigida*, May 11, 1924; Retreat, May 31, Hubbard and Schwarz; Round Knob, Hubbard and Schwarz; Southern Pines, Apr. 26. SOUTH CAROLINA: Clemson, June 27, 1946, O. L. Cartwright. MISSISSIPPI: Mar. 16, Nicholson. ALABAMA:

Auburn, Apr. 18, 1940, Van Dyke; one-half mile east of Paeston, Marshall County, on *Pinus taeda*.

Remarks: This is the most common and widespread species of *Glyptoscelis* east of the Mississippi River, and its range is from Ontario and Quebec to Mississippi and Alabama, and from Minnesota eastward. It is recorded as being found on various species of pine, also on hemlock and spruce. This large stout beetle with its brownish coloration and its exceptionally wide prothorax is easily distinguished from other species. There is considerable variation in size, specimens from the more southern localities tending to be the largest.

Glyptoscelis barbata (Say)

FIGURE 2

Eumolpus barbatus Say, 1826, Journ. Acad. Nat. Sci. Philadelphia, vol. 5, p. 296.
Glyptoscelis barbatus Crotch, 1873, Proc. Acad. Nat. Sci. Philadelphia, vol. 25, p. 36.
Glyptoscelis barbata Horn, 1892, Trans. American Ent. Soc., vol. 19, pp. 202, 203.—Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, p. 24.

Between 6 and 7.5 mm. in length, oblong oval, shining beneath semierect brown pubescence, deep reddish brown or even piceous, antennae reddish brown, very coarsely and densely punctate with transverse ridging on elytra, pubescence beneath grayish white.

Head with interocular space more than half width of head, a median line down occiput and front, deep reddish brown, surface deeply, densely and not very coarsely punctate, covered with brown pubescence. Antennae extending below humeri, reddish brown, outer joints a little wider, seventh joint long. Prothorax moderately convex with rounded sides, deep reddish brown, punctation deep, contiguous and tending to be oval, not entirely concealed by semierect brown pubescence. Scutellum with a few hairs. Elytra broadly rounded posteriorly, with a short intrahumeral sulcus, not noticeably depressed below scutellum, a little elevated at middle, shining beneath the reddish brown and semierect pubescence, punctures coarse, deep and with transverse ridging. Body beneath shining beneath the dense grayish pubescence, legs reddish brown with gray pubescence. Length 6–7.5 mm.; width 3.3–4 mm.

Type: Whereabouts unknown.

Type-locality: Not given by Say, who stated that it was a beetle named in the Melsheimer Catalogue, and it is probably from the Melsheimer collection and from Pennsylvania.

Other localities: NEW YORK: New York, Long Island, and Staten Island, all collected by M. L. Linell. NEW JERSEY: M. L. Linell. PENNSYLVANIA: Alleghany, J. B. Smith, Red Bank, July 2, 1900; Shiremanstown, May 15, 1915, on *Carya* foliage, W. S. Fisher; Lingles-

town, October 1914, W. S. Fisher, on *Carya*; Philadelphia, Caby, J. W. Green; Hammelstown, June 4, 1921, J. N. Knull; Overbrook, June 31, 1915, G. M. Greene; Angora, G. M. Greene. MARYLAND: Beltsville, June 30, 1923, L. L. Buchanan. WASHINGTON, D.C.: Hubbard and Schwarz. VIRGINIA: Herndon, Hubbard and Schwarz. KENTUCKY: Edmonson Co., July 17, 1900. MISSOURI: St. Louis, June 1899, F. Knab. INDIANA: Clark Co.

Remarks: The distinctly brown appearance of this species is the result not only of its reddish-brown surface but also the uniformly pale brown pubescence on the upper surface. The body beneath has a grayish pubescence. No specimens have been seen north of New York or south of Kentucky. It is recorded from New York to as far west as St. Louis, Mo.

Glyptoscelis albicans Baly

FIGURE 5

Glyptoscelis albicans Baly, 1865, Trans. Ent. Soc. London, ser. 3, vols. 2, 4, p. 334.

Glyptoscelis liebecki Blatchley, 1910, Coleoptera of Indiana, p. 1137.—Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, p. 24.

Between 8 and 10 mm. in length, oblong oval, shining, deep reddish brown with short, white, coarse, appressed pubescence, prothorax deeply, coarsely, and densely punctate, elytra not quite so coarsely or densely punctate with some horizontal ridging, slightly depressed below scutellum and convex below that.

Head with interocular space more than half width of head, a more or less distinct median line ending in a depression in middle of front, punctation dense and moderately coarse, brown and white pubescence very dense, covering surface, usually labrum and palpi paler yellowish brown. Antennae extending well below humeri with wider outer joints, seventh joint long, pale yellowish or reddish brown. Prothorax not much wider than long, with only slightly curved sides, moderately convex, densely and deeply punctate, punctures being somewhat oval and frequently contiguous, covered densely with a pale brown or yellowish gray coarse pubescence, heavier on the sides. Scutellum with a few fine hairs. Elytra with a depression below scutellum along suture, a short intrahumeral sulcus and well-developed humeri, a slight convexity before middle of elytra; punctation not so coarse or deep as on pronotum with horizontal ridging most marked about scutellum, punctures finer toward apex; pubescence coarse, short, dense, closely appressed, tending to be yellowish or pale brownish or white, and surface below dark reddish brown and shiny. Body beneath covered with dense white coarse hairs, beneath which a dense fine

punctation, legs yellowish or reddish brown. Length 8–10.5 mm.; width 4–5 mm.

Type: Female, in British Museum (Natural History). Type of *G. liebecki* in Blatchley collection, Purdue University, Lafayette, Ind.

Type-locality: For its habitat Baly gives only "?".

Other localities: ILLINOIS: southern part, May 7, 1892, H. Soltau. ARKANSAS: Pine Bluff, Mar. 20, Hubbard and Schwarz. LOUISIANA: Tallulah, Mar. 8–15, 1944. TEXAS: College Station, Apr. 1, 1917; Texas, C. V. Riley.

Remarks: The reddish-brown color and coarse white hairs distinguish this from other eastern species. It closely resembles *G. cryptica* Say in its coloring but the scalelike pubescence in *G. cryptica* is broader and there are more distinct elytral prolongations at the tip than in *G. albicans*. Sometimes in *G. albicans* there may be a bunching of the white hairs at the tip to simulate a little prolongation.

Glyptoscelis albicans Baly has been synomized with *G. cryptica* Say. I have examined the Baly type in the British Museum (Natural History), and it has no prolongation of the tip as in *G. cryptica*. The elytra are covered with a dense white pubescence that conceals the punctation, the hairs are not so short or broad as in *G. cryptica*. The elytra are not at all metallic and are slightly humped in the middle, well below the scutellum. Jacoby's observation (under *G. albicans* in the "Biologia Centrali-Americana," Coleoptera, vol. 6, pt. 1, 1882, p. 177) that his specimen from the Sallé collection with simple claws differs in this respect from the type of *G. albicans*, which has bifid claws, is sufficient to rule out *G. albicans* from being the same as *G. cryptica* Say.

The pattern of the pubescence on the prothorax is different from that of the *G. squamulata* group and also of species from Mexico. In fact, the only species that can fit *G. albicans* is Blatchley's *G. liebecki*, which strongly resembles *G. cryptica*, except that it has bifid claws.

Blatchley gave the distribution in Indiana as Knox, Martin, and Posey Counties, all in the southwest part of the state. It is also from southern Illinois but there are no records from farther north or east. It ranges south and west to Texas.

Glyptoscelis cryptica (Say)

FIGURE 3

Eumolpus crypticus Say, 1824, Journ. Acad. Nat. Sci. Philadelphia, vol. 3, p. 449. *Glyptoscelis crypticus* Crotch, 1873, Proc. Acad. Nat. Sci. Philadelphia, vol. 25, p. 36. *Glyptoscelis cryptica* Horn, 1892, Trans. American Ent. Soc., vol. 19, pp. 202, 204.—Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, p. 30.

From 8 to 10.5 mm. in length, oblong oval, shining reddish brown beneath the short white scalelike pubescence, elytra with prolonged tips parted, more developed in male, claws simple.

Head with interocular space more than half width of head, eyes slightly emarginate at antennal sockets; a more or less well-defined median line ending in a small depression in middle of front, from which white pubescence radiates, surface lustrous, dark reddish brown, densely punctate, covered with dense, coarse white hairs, labrum paler reddish brown. Antennae extending below humeri, outer joints thicker, seventh joint long, reddish brown. Prothorax widest at base, with nearly straight sides, moderately convex, in some specimens a median depression, more marked in middle of base; surface shiny, densely and not very coarsely punctate, lustrous dark reddish brown, covered with short, dense, coarse, white hairs, sometimes almost scalelike. Scutellum with fine white hairs. Elytra a little depressed below scutellum and with a short intrahumeral sulcus and prominent humeri, tapering to apex with apices prolonged and parted, especially in male, not united at tip as in *G. chontalensis* Jacoby; surface very shiny, dark reddish brown, with punctation coarser near base, covered with scalelike white pubescence, wider than hairs on prothorax. Body beneath densely punctate and with white scalelike pubescence becoming finer on abdomen, claws simple. Length 8–10.5 mm.; width 4–5 mm.

Type: Whereabouts unknown.

Type-locality: "Inhabits Missouri."

Other localities: MISSOURI: St. Louis; central Missouri, C. V. Riley. ARKANSAS: Pine Bluff, Mar. 22, Hubbard and Schwarz. INDIANA. OKLAHOMA: Oklahoma City, May 28, 1957, O. Alexander. KANSAS: East Kansas; Topeka, E. A. Popenoe.

Remarks: I have seen very few specimens of this species, and these are mostly old ones from the Riley and Popenoe collections. The reddish-brown coloring, scalelike pubescence on the elytra, and prolonged and parted apices of the elytra, more developed in male, distinguish this species. It is unique in the genus in having simple claws.

There is a figure of this species in the "Biologia Centrali-Americana" (Coleoptera, vol. 6, p. 177, 1882) illustrating a specimen, probably a female, from the Sturm collection and labelled "Mexico," which Jacoby called *G. albicans* Baly, although he noted that it differed from *G. albicans* by having simple not bifid or appendiculate claws.

Glyptoscelis squamulata Crotch

FIGURE 6

Glyptoscelis squamulatus Crotch, 1873, Proc. Acad. Nat. Sci. Philadelphia, p. 35.
Glyptoscelis squamulata Horn, 1892, Trans. American Ent. Soc., vol. 19, p. 204.
Glyptoscelis squamulata Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, p. 29.

From 6.5 to 10 mm. in length, elongate oblong oval, bronzy black beneath the dense, closely appressed white or pale brownish scales, densely and not very coarsely punctate, antennae and legs reddish brown.

Head with a more or less distinct median line ending in a depression in middle of front from which white scalelike hairs radiate; densely pubescent over the dense punctation beneath; eyes with small emargination near antennal sockets, labrum reddish brown. Antennae extending a little below humeri, outer joints somewhat wider, seventh joint long, reddish brown with some darkening of apical joints. Prothorax wider than long with curved sides, moderately convex, often depressed in middle at base; densely covered with white or pale brownish scales set vertically except toward margin, where scales become horizontally arranged; punctation dense, deep, and not very coarse, tending to be oval rather than round and on sides punctures sometimes running together. Scutellum with fine hairs. Elytra faintly depressed about scutellum and with a transverse depression below intrahumeral sulcus, piceous surface completely hidden by dense scales, punctation beneath the dense covering coarser in basal part becoming finer and less dense towards apex. Body beneath entirely covered with dense white pubescence, the scales over abdomen more hairlike; legs reddish brown. Length 6.5–10 mm.; width 3.3–5 mm.

Type: In Museum of Comparative Zoology.

Type-locality: California.

Other localities: CALIFORNIA: Butte Co.: Oroville, Apr. 30, 1927, H. R. Keefer. Lake Co.: Hillville, June 19, 1921, F. E. Blaisdell. Sacramento Co.: Sacramento, on willow, May 28, 1918, E. P. Van Duzee; Courtland, May 6, 1926, F. H. Wymore. Merced Co.: Ryer, May 3, 1923, F. H. Wymore. San Joaquin Co.: Davis, Apr. 17, 1926, Wymore, on *Salix*. Stanislaus Co.: La Grange, R. P. Allen. Alameda Co.: Sunol, May 14, 1922, F. E. Blaisdell. Madera Co.: Madera, Apr. 11, 1951, R. Pallen. Santa Clara Co.: San Jose, Apr. 16, 1940, E. G. Meyers. Fresno Co.: Bass Lake, June 12, 1922, R. S. Wagner; Sanger, on grapes, Apr. 8, 1936; Coalinga, Mar. 19, 1931, E. S. Ross. Monterey Co.: Bradley, May 23, 1930, on willow, E. P. Van Duzee; Bryson Paicenes, July 9, 1933; Paraiso Spgs., Apr. 26, 1919. San Luis Obispo Co.: Paso Robles, Apr. 1, 1917, on *Salix*, L. S. Slevin. San Benito Co.: Hernandez Valley, May 28, 1960, C. E. Wemmen. Tulare Co.: Woodlake, Visalia, Mar. 7, 1934, R. P. Allen. Kings Co.: Hanford, eating grape leaves, Van Dyke. Kern Co.: Bakersfield, June 2, 1916, J. O. Martin; Cuyama Valley, Apr. 10, 1932, E. P.Van Duzee; Poso Creek, June 5, 1929, E. P. Van Duzee; Tapman, Apr. 7, 1932, E. P. Van Duzee;

Isabella, June 2, 1943, R. Hopping; Del Ray, Hubbard and Schwarz. Los Angeles Co.: Palmdale, Santa Monica, Rivera, on orange, May 10, 1926, Van Duzee; San Gabriel, June 1892, Hutchinson; Pasadena, May, Fenyes; Compton, Apr. 17, 1912, J. E. Graf; West Covina, May 4, 1942, J. A. Wilcox, on young orange trees; Lenwood, Burbank, July 1915; Whittier, Mar. 20, 1940, Harper and Graves. Riverside Co.: Coachella, Mar. 15, 1920; Indio, on grape leaves, Mar. 17, 1938, G. Henull; Palm Springs, A. Fenyes, May 21, 1917, E. P. Van Duzee; Saboba Springs, June 2, 1917, E. P. Van Duzee. San Bernardino Co.: Colton, May 26, 1917, E. P. Van Duzee, on rose; Courtland, May 6, 1926, F. H. Wymore; San Bernardino, May 13, 1930, C. M. Dammus; Lytle Creek, June 6, 1926, Van Duzee; Oro Grande, E. S. Ross. Orange Co.: Green River Camp, Santa Ana, May 11, 1933, E. P. Van Duzee. San Diego Co.: Descanso, Mission Valley, April 1930, G. H. Field; San Diego, May 31, 1890, F. E. Blaisdell, on alfalfa, Apr. 10, 1914, S. Wilson. Imperial Co.: Winterhaven, on *Sphaeralcea rosacea*, March 1930. NEVADA: Reno, May 3, 1926; Las Vegas Valley, Lincoln Co., May 1922, injuring grape leaves; Logandale, Apr. 14, 1961, Bechtel. UTAH: Milford, July 7, Wickham; St. George, V. M. Tanner; St. George, 2800 ft., May 23–June 12, 1919, W. Knaus. ARIZONA: Ft. Yuma, Jan. 25, Hubbard and Schwarz; Littlefield, Apr. 25, 1935, J. W. Green; Phoenix, Tempe, V. L. Wildermuth; Somerton, Mar. 23, 1944, on alfalfa.

Remarks: There are five specimens in the LeConte collection under *G. squamulata*, the first two bearing round gilt labels, indicating the locality as California. These are essentially alike in white appearance and are probably Crotch's specimens. The species is readily distinguished from all the others by the wide white or pale brownish scales covering the whole beetle and giving it a snowy appearance. There are rarely brown specimens. It appears to range from Butte County in northern California to San Diego County in the south, and it also occurs in Utah, Nevada, and Arizona. It has been recorded as a pest on grapes, oranges, and peaches.

Glyptoscelis alternata Crotch

FIGURE 4

Glyptoscelis alternatus Crotch, 1873, Proc. Acad. Nat. Sci. Philadelphia, vol. 25, p. 36.
Glyptoscelis alternata Horn, 1892, Trans. American Ent. Soc., vol. 19, pp. 202–3.
Glyptoscelis alternata Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, pp. 29, 30.

Between 7 and 9.5 mm. in length, elongate oblong oval, shining piceous, covered with closely appressed brown and white scales, scales on elytra forming brown and white vittae; punctation on pronotum

oval, denser on sides and at base, elytra with depressed area near scutellum and below basal callosities, punctures not very coarse and becoming finer towards apex.

Head coarsely and densely punctate throughout with closely appressed white scalelike hairs that, on occiput, become slightly browner; surface piceous, labrum usually brown. Antennae extending below humeri, brown with fine white pubescence. Prothorax moderately convex, depressed along base, shining piceous with coarse elongate oval punctures becoming denser at base and on sides and nearly concealed by the closely appressed white pubescence. Scutellum densely punctate and densely covered with finer white hairs. Elytra with a depressed white area below and about scutellum in which horizontal rows of punctures form slight horizontal ridging between, a transverse depression below with ridging, and a short intrahumeral sulcus, punctation becoming finer and less dense towards apex, pubescence consisting of scalelike hairs with alternate brown and white coloring forming a vittate pattern. Body beneath entirely covered with closely appressed white pubescence, near apex of tibiae becoming fine, silky, and slightly brownish. Length 7–9.5 mm.; width 3.3–5.3 mm.

Type: Possibly in Horn collection in Philadelphia.

Type-locality: California.

Other localities: California: Inyo Co.: Independence, June 11, 1937, Van Dyke, June 12, K. L. Maehler, June 4, Fenyes; Big Pine, Apr. 10, 1937, A. E. Michelbacker; Lone Pine, Apr. 6, 1934, R. P. Allen; June 8, 1929, R. L. Usinger; Oct. 10, 1937, H. E. Michelbacker. Krauss gives the locality Isabella, Kern County, which is not far from the localities in Inyo County.

Remarks: As Krauss noted, this species is very close to *G. squamulata* Crotch, the only differences seeming to be in the vittate pattern of the scales on the elytra. The difference in the width of the scales is very slight, *G. squamulata* having possibly slightly shorter and broader scales. The tooth on the claw is lower down than on *G. squamulata*. Unlike *G. squamulata*, this beetle appears to be confined to a small area in southern California in and near Inyo County.

In the LeConte collection there are five specimens under this name, none with a type label, and only one with a locality label, which reads "Tex." In the general collection at the Museum of Comparative Zoology there is one specimen labelled "*alternatus* Cr. Calif. Horn," which is the same data that Crotch gave in his original description of *G. alternata*. Possibly this is the type or at least a cotype.

Mr. Hugh B. Leech has sent me this note from Dr. Van Dyke's notebook: "Friday, June 11, 1937. Drove up to Independence (Inyo Co., Cal.) and thence up Clark Flatroad to Sierras. Collected

but little at higher levels. On way back drove out beyond Independence and towards the river. Close to flume found *Glyptoscelis alternata* on vetch [*Glycyrrhiza lepidota* (Nuttall)]." There are in the California Academy about 70 specimens that Dr. Van Dyke collected that day at Independence.

Glyptoscelis albida LeConte

FIGURES 7, 8, 10

Glyptoscelis albidus LeConte, 1859, Proc. Acad. Nat. Sci. Philadelphia, vol. 9, p. 81.—Crotch, 1873, Proc. Acad. Nat. Sci. Philadelphia, vol. 25, p. 36.
Glyptoscelis albida Horn, 1892, Trans. American Ent. Soc., vol. 19, p. 203.
Glyptoscelis albida Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, pp. 25–26.

From 6 to 10.5 mm. in length, oblong oval, shining piceous with a bronzy and often purplish-brown lustre beneath the thick white and sometimes pale brownish coarse hairs; antennae, tibiae, and tarsi tending to be dark reddish brown; prothorax contiguously and coarsely punctate, with pubescence vertical in middle and branching from either side of middle of base diagonally toward side; elytra broad, convex, depressed a little about scutellum.

Head with interocular space more than half width of head, a median line down front ending in a depression in middle from which white pubescence radiates, densely and coarsely punctate and covered with dense white appressed hairs; eyes slightly emarginate at antennal sockets. Antennae extending below humeri, dark brown, outer joints wider, seventh joint long. Prothorax large, broader than long with rounded sides, convex with median basal depression; very coarsely and contiguously punctate and covered with white coarse hairs arranged vertically down middle and branching from either side of base diagonally and horizontally toward sides in broad sweeping pattern. Scutellum with finer white hairs. Elytra broad, convex, a slight depression below scutellum and a short intrahumeral sulcus; punctation coarse, often contiguous near base and somewhat horizontally ridged; pubescence dense and coarse, but not entirely hiding surface and producing a grayish white aspect to beetle, the white hairs intermixed with pale brown ones. Body beneath densely punctate and densely covered with finer white hairs becoming silky and yellowish brown at apex of tibiae. Length 6.2–10.5 mm.; width 3.3–5.3 mm.

Type: In Museum of Comparative Zoology. Types of *G. albida diabola* and *G. albida yosemitae* Krauss in California Academy of Sciences.

Type-locality: Ft. Tejon, Calif.

Other localities: CALIFORNIA: Alameda Co.: Niles Canyon, May 14, 1922, Van Dyke; Altomont, Apr. 30, 1956, R. P. Allen; hills back of Oakland. Contra Costa Co.: Berkeley, Apr. 19, 1940, Miller;

Mt. Diablo, May 13, 1923, F. E. Blaisdell. Monterey Co.: Monterey, Koebele; Paraiso Springs, May 31, 1916, Sleven; Bryson, Apr. 25, 1941, E. P. Van Duzee. Mariposa Co.: Wawona, Apr. 17, 1931, feeding on cherry; Yosemite Valley, May 28, 1921. Fresno Co.: Huntington Lake, May 8, 1931, Van Dyke; Havilah, May 8, 1931, Van Dyke; Stevenson Creek, May 27, 1915, on *Libocedrus;* Black Mt., July 5, 1919, F. E. Blaisdell. Tulare Co.: Atwood's Mill, June 29, 1913, Van Dyke; Visalia, April 1930, on poplar, F. T. Scott. San Benito Co.: Waltham Creek, May 11, 1907, R. Hopping. Kern Co.: Mt. Pinos, June 14, 1914, F. Grinnell. Ventura Co.: Mt. Pinos, June 15, 1914, F. Grinnell. San Bernardino Co.: Forest Home, June 14, 1928, Van Dyke; Lebec, alt. 4000 ft., May 15, 1928, J. O. Martin. Los Angeles Co.: Tanbark Flat, June 23, 1950, F. X. Williams. Riverside Co.: Palm Springs, Mar. 27, 1916, F. E. Blaisdell. San Diego Co.: Mission Valley, Mar. 30, 1930, Ian Moore. Imperial Co.: Laguna, June 3, 1924, F. E. Blaisdell.

Remarks: In the LeConte collection are four specimens, the first labelled "*G. albidus* Lec. Sacr.Rathv." and having, in addition, a round gilt label indicating "California." The other three all have gilt labels and two are also labelled "Santa Cruz." There are two others in the same line labelled "Cal." that are probably not this species. The type bearing the label is almost destitute of pubescence, being badly rubbed. A drawing was made of this one, which presumably was taken at Ft. Tejon, and with it is given the aedeagus of a specimen from Lebec, which is located in Kern County near the type-locality, Ft. Tejon.

The grayish-white appearance of this species is responsible for its name. It is not snowy white like *G. squamulata* Crotch, and the coarse white hairs are pointed and not truncate as are the scales in *G. squamulata*.

Krauss has made two subspecies, one, *G. diabola* from Mt. Diablo, Contra Costa County, which he differentiates by its less robust form, more aeneous coloring and less densely punctate thorax. The other, *G. yosemitae*, he differentiates by its less robust form, somewhat less densely pubescent surface, with shorter and finer hairs, and more shallowly emarginate eyes. There is a great variation in size in this species, which, I believe, is not connected with specific localities. The main character is to be found in the aedeagus. This is not unlike that of *G. squamulata* and serves to distinguish *G. albida* from the three following species, all more northern in range, that occur respectively in northern California, Oregon, and Idaho.

***Glyptoscelis vandykei* Krauss, new status**

FIGURE 9

Glyptoscelis sequoiae vandykei Krauss, 1937, Univ. Calif. Publ. Ent., vol. 7, no. 2, p. 28.

From 8 to 10 mm. in length, broadly oblong oval, shining piceous, antennae usually very dark brown or piceous, prothorax broad, densely and deeply punctate, elytra coarsely and contiguously punctate, covered with coarse white and pale brown hairs, not closely appressed.

Head with interocular space more than half width of head, eyes slightly emarginate at antennal sockets, a more or less well-defined median line ending in a depression in middle of front, lower front more coarsely punctate, punctures dense on head with rather fine and closely appressed white and pale brown pubescence. Antennae long, extending well below humeri, outer joints wider, seventh joint long, usually dark brown or piceous. Prothorax considerably wider than long, almost as wide as elytra, with curved sides, moderately convex with depression along basal margin; deeply, coarsely and densely punctate, punctures oval or even sometimes diamond shaped; pubescence long and moderately coarse, in middle usually pale brown and semierect, not entirely concealing punctation, below middle the pattern of pubescence branching horizontally toward sides and feathery. Scutellum with finer white pubescence. Elytra slightly depressed below scutellum and also below basal callosities, a short intrahumeral sulcus; punctation contiguous, coarse, with horizontal ridging about scutellum; pubescence not so thick as to conceal punctation below, coarse, not closely appressed but semierect, pale brown and white. Body beneath densely punctate and covered with white pubescence. Length 7.6–9.7 mm.; width 4–5 mm.

Type: In California Academy of Sciences.

Type-locality: Klamath Falls, Klamath County, Oreg., June 16, 1922, Van Dyke, on juniper.

Other localities: OREGON: Crater Lake, alt. 7000 ft., July 17, 1922, Van Dyke.

Remarks: This species is easily separated from *G. sequoiae* Blaisdell by its larger size, coarser pubescence, and different coloring. *Glyptoscelis sequoiae* is noticeable because of its coppery lustre, whereas *G. vandykei* is piceous. The aedeagus is also quite different in shape, in *G. vandykei* being broadly rounded at the apex. The pubescence is not so coarse as in *G. albida*, which otherwise it resembles in size and robustness, and again the aedeagus is quite unlike that of *G. albida*. Unlike *G. sequoiae*, its food plant is apparently juniper.

***Glyptoscelis peperi*, new species**

FIGURE 12

From 7 to 8 mm. in length, oblong oval, shining black, antennae, tibiae, and tarsi tending to be deep reddish brown, covered with white and pale brownish hairs intermingled, those on the elytra being coarser than on pronotum, punctation of pronotum dense, deep, and moderately coarse, of elytra coarser near base, a depression below scutellum and on side below basal callosities.

Head with interocular space more than half width of head, eyes emarginate at antennal sockets, a median line more or less distinct down front ending in a depression and the lower front slightly produced between antennal sockets; punctation dense and becoming coarser in lower front; covered with white and pale brownish appressed hairs, finer over occiput. Prothorax slightly wider than long, convex, with curved sides and depression along base, shining, deeply and moderately coarsely and densely punctate, the punctures being oval frequently, and covered with white and pale brownish appressed hairs, not as coarse as on elytra and below middle branching horizontally toward side in feathery pattern. Scutellum with fine dense white hairs. Elytra depressed about scutellum and with a short intrahumeral sulcus and a depression on side below basal callosities; punctation dense, not very coarse with some horizontal ridging below scutellum; pubescence coarse, white hairs usually intermingled with pale brownish ones. Body beneath densely punctate and covered with white hairs not so coarse as on elytra. Length 7–8.2 mm.; width 3.5–4 mm.

Type: Male, California Academy of Sciences, and 38 paratypes, of which 10 are in the U.S. National Museum.

Type-locality: Shasta Springs, Calif., June 1920, C. L. Fox.

Other localities: CALIFORNIA: Shasta Co.: Castle Crag, Fenyes; Old Station, June 1941, H. P. Chandler; Cayton, July, E. P. Van Duzee; Burney, June 1941, H. P. Chandler. Siskiyou Co.: Walker, July 1920, C. L. Fox; McCloud, June 1914, Van Dyke; Siskiyou, May 1911, Nunenmacher. Trinity Co.: Carrville, 2400–2500 ft., June, Van Dyke.

Remarks: This is one of several species liable to be confused with *G. albida* because of its coarse pubescence. It is slightly smaller and less robust than *G. albida*, and the pubescence, while coarse, is not as long and is usually composed of brown and white hairs intermingled. The aedeagus is quite unlike that of *G. albida*, being more rounded at the apex. Krauss has confused this species with *G. sequoiae* described from Sonoma Co., but *G. sequoiae* beside being generally slightly smaller has finer and browner pubescence, and the surface a coppery lustre. *Glyptoscelis peperi* is also a bit larger than the

Sierra species, *G. juniperi*, and the pubescence coarser and the tip of the aedeagus not so broadly rounded.

Glyptoscelis idahoensis, new species

FIGURE 11

From 7 to 8 mm. in length, oblong oval, shining piceous beneath coarse white pubescence; prothorax densely and coarsely punctate, elytra coarsely and rugosely punctate toward base, finer toward apex; pubescence on elytra sometimes with vittate lines.

Head with interocular space more than half width of head, a depressed median line down front ending in a depression from which coarse white hairs radiate, whole head densely covered with white hairs, beneath which are dense, coarse punctures; eyes slightly emarginate at antennal sockets. Prothorax slightly wider than long with rounded sides, densely, deeply, and quite coarsely punctate, punctures elongate or diamond shaped and covered not densely with coarse white hairs in a pattern that branches a little below the middle with feathery formations toward the sides. Scutellum with a few white hairs. Elytra with very little depression below scutellum, a short intrahumeral sulcus; punctation coarse with horizontal ridgings in basal part, punctation becoming finer toward apex, and not entirely concealed by coarse white hairs that tend to form two vittate lines on each elytron. Body beneath densely punctate and pubescent, tibiae, tarsi and antennae tending to be dark reddish brown. Length 7–8.2 mm.; width 3.7–4.2 mm.

Type: U.S. National Museum no. 69196 and 3 paratypes.

Type-locality: Pocatello, Idaho, Hubbard and Schwarz, 2 specimens from same locality in Wickham collection.

Other localities: WYOMING: Fremont Co., Apr. 29, 1949. Niobrara Co., July 1, 1943, R. E. Pfadt.

Remarks: This species is very like *G. albida* LeConte in size and shape, and also in its coarse white pubescence, and Schwarz has labelled it as that species. But the hairs, while coarse, are not so long as in *G. albida*, and the pattern of the pubescence on the prothorax as well as the tendency to form vittae on the elytra is different. The aedeagus too is entirely unlike that of *G. albida*, being rounded and not triangular at the apex.

Glyptoscelis sequoiae Blaisdell

FIGURE 13

Glyptoscelis sequoiae Blaisdell, 1921, Stanford Univ. Publ. Biol. Sci., vol. 1, no. 3, pp. 195–6.—Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, p. 27.

Between 6.5 and 8 mm. in length, elongate oblong oval, shining usually with a coppery, sometimes bronzy lustre; antennae and legs

deep reddish or dark brown; punctation dense, deep but not very coarse; pubescence fine and brownish, not concealing surface below.

Head with interocular space over half width of head, densely punctate, punctures on lower front coarser, median line ending in a depression in middle of front; finer dark hairs on occiput becoming coarser on front and sometimes paler but not white. Antennae extending well below humeri, slender, seventh joint long, outer joints a bit wider, reddish brown to dark brown. Prothorax somewhat wider than long with somewhat curved sides, convex, densely, deeply but not very coarsely punctate with fine brown pubescence, not concealing surface in middle, where the hairs become finer and darker and inconspicuous. Scutellum with a few fine short hairs. Elytra with prominent humeri, an intrahumeral sulcus and a transverse depression below basal callosity, depressed below scutellum, punctation not very coarse or dense but with horizontal ridgings. Body beneath finely punctate and covered with fine yellowish pubescence, legs tending to be deep reddish brown, often darker. Length 6–8 mm.; width 3–4.4 mm.

Type: Male, in California Academy of Sciences.

Type-locality: Cazadero, Sonoma County, Calif., Apr. 12, 1918, E. P. Van Duzee, on foliage of *Sequoia sempervirens*.

Other localities: CALIFORNIA: Sonoma Co.: Guerneville, May 30, 1908, Van Dyke; Sonoma Co., E. S. Ross. Mendocino Co.: Pygmy Forest, May 7, 1936, Van Dyke; Compteche, May 7, 1936, Van Dyke. Humboldt Co.: Green Point, June 4, 5, 1916, F. E. Blaisdell; Weott, June 4, 1936, Van Dyke; Humboldt Co., May 20, 1911, F. W. Nunenmacher. Santa Cruz Co.: Santa Cruz Mts., Koebele. San Mateo Co.: Portola St. Park, May 7, 1950, R. E. Leech.

Remarks: Primarily this species is the one that is found in the coastal counties around and north of San Francisco on *Sequoia sempervirens*, the coastal big tree. It is a coppery-colored species to which Blaisdell first gave the manuscript name *"cuprascens"* (specimens from Casadera in the California Academy of Sciences still bear a label with this name), but later Blaisdell named it after its food plant and called it *G. sequoiae*. The pubescence is not very conspicuous because it is usually brownish, like the beetle, sometimes paler brown or yellowish brown, but never really white, and it is silky and not at all coarse. On the middle part of the prothorax it appears nearly hairless, but the hairs here are even finer and sparser and usually darker. The aedeagus does not have so rounded a tip as in the Sierra species that have been up to now confused with the coastal *G. sequoiae*.

***Glyptoscelis juniperi*, new species**

FIGURE 14

Between 6 and 8 mm. in length, oblong oval, shining with an aeneous or rosy glint under white or pale straw-colored pubescence, antennae and legs deep reddish brown, moderately coarsely and densely punctate.

Head with interocular space more than half width of head, a more or less distinct median line down front, finely punctate above, punctation becoming coarser in lower front, occiput thinly covered with brown pubescence, lower front with coarser white hairs; eyes emarginate at antennal sockets. Antennae long, slender, a bit wider in outer joints, extending below humeri, reddish brown. Prothorax extending slightly forward at anterior angle; moderately convex with nearly straight sides; depressed along base in middle; densely and deeply but not coarsely punctate, covered on sides with feathery yellowish or white pubescence, middle often with darker hairs. Scutellum with fine short white hairs. Elytra slightly depressed below scutellum, with a slight transverse depression below basal callosity and an intrahumeral sulcus; punctures not very coarse or dense with horizontal ridging near base; pubescence not so dense as to hide surface beneath entirely, uniform white or pale straw-colored hairs, sometimes intermingled with darker brown, moderately coarse. Body beneath densely punctate and covered with white pubescence. Length 6–8 mm.; width 3–4 mm.

Type: Male, and 87 paratypes, California Academy of Sciences, of which 15 paratypes are in the U.S. National Museum.

Type-locality: Fallen Leaf, Eldorado County, Calif., on *Juniperus occidentalis*, F. E. Blaisdell and Ralph Hopping.

Other localities: CALIFORNIA: Placer Co.: Angora Lake, Tahoe, June 22, 1915, Van Dyke; Glen Alpine, Nov. 24, 1915, Hopping and Van Dyke; Summit, July 1907, 7000 ft., Forest Hill, October 1898, Van Dyke. Sierra Co.: Gold Lake, July 10, 1921, C. L. Fox. Eldorado Co.: June 12, 1906, C. L. Fox; Meyers, July 3, 1916, E. C. Zimmermann; Echo Lake. Nevada Co.: Chicago Park, June 5, 1936, J. W. Green; Carson City, June 25, 1929, R. L. Usinger; Graniteville, July 2, 1923, J. O. Martin.

Remarks: This Sierra species has been identified as *G. sequoiae* although the habitat as well as food plant are quite different. Both *G. sequoiae* and *G. juniperi* are about the same size and with similar sculpture, but their pubescence is different, giving them a different appearance. *Glyptoscelis sequoiae* is coppery, both in its lustre and

the fine brownish hairs that cover it. *Glyptoscelis juniperi* in its typical form often has an aeneous green or even rosy lustre, and the pubescence is not brown but white or straw colored. Only occasionally are there specimens with darker brown hairs intermingled on the elytra. On the occiput of the head the hairs are fine and dark, so that the top of the head appears quite dark. The aedeagus, too, differs from that of *G. sequoiae*, in being broadly rounded at the tip.

There is a series of specimens from Bijou, Lake Tahoe, and another series from Facht, Lassen County, and scattered specimens from other localities in Eldorado, Lassen, and Modoc Counties that are much darker in appearance, in fact, almost black, with little evidence of aeneous or bronzy lustre, and the pubescence on these is darker brown with scattered white hairs. The aedeagi appear to be no different from those of typical *G. juniperi*. One of these specimens was collected on *Pinus murrayana*. Whether these darker specimens represent a different subspecies or even another species is not clear. The aedeagus gives no clue of difference. These darker specimens are easily confused with a more northern species, *G. septentrionalis*, which also has dark elytral pubescence, but in *G. septentrionalis* the elytral hairs are denser and often less appressed, and the beetles have a bronzy lustre and the aedeagus is less rounded at the tip. In general it is a smaller, browner appearing species.

***Glyptoscelis juniperi xanthocoma*, new subspecies**

FIGURE 15

Between 6 and 8 mm. in length, oblong oval, shining with a coppery or aeneous lustre with reddish brown antennae and legs and with closely appressed dense yellowish brown, fine pubescence, pubescence on pronotum being finer and silky, deeply and not coarsely punctate.

Head with interocular space more than half width of head, eyes a little emarginate at antennal sockets; densely punctate, with lower front more coarsely punctate, a median line down front usually ending in a depression, covered with pale yellowish brown pubescence that is less or not at all over lower front. Antennae reddish brown, extending well below humeri, slender with the outer joints a bit widened, seventh joint long. Prothorax nearly as long as wide with slightly curved sides, moderately convex and depressed along base, deeply but not very coarsely or densely punctate and covered with long fine pale yellowish-brown hairs that are thicker in feathery swirls on the sides than in the middle. Scutellum with fine short hairs. Elytra slightly depressed below scutellum and with a short intrahumeral sulcus and slight transverse depression below basal callosity, punctation coarser near base and with horizontal ridging; surface only partially concealed by long, pale yellowish-brown pubes-

cence that is thicker along base and suture. Body beneath densely punctate and covered with pale yellowish-brown pubescence, legs, reddish brown. Length 6–7.8 mm.; width 3–4 mm.

Type: Male, California Academy of Sciences, and 15 paratypes, of which 5 are in the U.S. National Museum.

Type-locality: Huntington Lake, Fresno County, Calif.

Other localities: CALIFORNIA: Fresno Co.: Stevenson Creek, May 27, 1915, R. Hopping, collected on *Libocedrus decurrens*. Tuolumne Co.: Pine Crest, April 1934, E. P. Van Duzee; Long Barn, Apr. 20, 1934, E. P. Van Duzee. Calaveras Co.: Big Trees, May 11, 1935, F. E. Blaisdell. Amador Co.: Tin Rise, June 1, 1936. Mariposa Co.: Yosemite, June 25, 1910, J. O. Martin; Miami Ranger Sta., May 27, 1912, on *Libocedrus decurrens*, A. J. Waltz. Tulare Co.: on cedar, Atwoods Mill, May 29, 1913, Van Dyke; Sequoia National Park, 3000–5000 ft., June 11, 1929, A. T. McClay; California Hot Springs, June 3, 1939. Calaveras Co.: Big Trees, July 19, 1907, F. E. Blaisdell; Calaveras Grove, Apr. 17, 1934, Van Dyke. Inyo Co.: Westgard Pass Plateau, June 15, 1937, Van Dyke.

Remarks: This may be a distinct species in itself, although it is not very clear cut. Its food plant as recorded several times is not *Juniperus* but *Libocedrus decurrens*. Its range generally appears to be more southern in the Sierras than typical *G. juniperi*. In appearance the beetles look yellowish brown because of the long yellowish pubescence in contrast to typical *G. juniperi*, in which the general effect is of an aeneous or even rosy-lustred beetle lightly covered with white or straw-colored pubescence. There is a slight difference in the aedeagus too, that of the typical form being more widely rounded. And the claw has an inner tooth located slightly lower than in the typical form. On the other hand, there are specimens that intergrade so that I cannot come to any conclusion as to which group they belong.

Glyptoscelis longior Le Conte

FIGURES 21, 23

Glyptoscelis longior LeConte, 1878, Bull. U.S. Geol. Surv., vol. 4, no. 2, p. 262.—Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, pp. 26, 27.
Glyptoscelis albida Horn, 1892, Trans. American Ent. Soc., 19, p. 203.

Between 5.5 and 6.8 mm. in length, elongate oblong oval, shining piceous with a very faint bronzy lustre, densely punctate and with dense, closely appressed, coarse white hairs mixed with very pale brownish hairs to produce a grayish appearance; prothorax convex with nearly straight sides.

Head with a median depressed line from occiput down front, punctation over occiput finer and with fine dark hairs, on lower front punctation becoming coarser and denser with coarse white hairs.

Antennae reddish brown. Prothorax convex, usually with nearly straight sides; punctures deep, well separated and becoming coarser towards middle and base; pubescence coarse and closely appressed, with white and pale brown hairs intermingled. Scutellum broad, with finer hairs. Elytra with prominent humeri, a well-marked intrahumeral depression and a slight umbone between it and depression below scutellum; punctation not too dense or coarse, with some ridging and covered with dense, appressed white and pale brownish hairs producing a gray appearance. Body beneath densely covered with a little finer gray pubescence. Length 5.5–6.8 mm.; width 1.7–3.5 mm.

Type: Female, Museum of Comparative Zoology.

Type-locality: Atlanta, Idaho, collected by O. Reinecke.

Other localities: OREGON: Durkee, June 17, 1941, K. M. Fender; Baker, 1940, M. C. Lane; Bend, Tumalo State Park, June 23, 1954, K. M. Bender; Burns, May 5, 1941, M. C. Lane; Bly, June 15, 1945, K. M. Bender; Ironsides, May 21, 1941, M. C. Lane; Sucker Creek Canyon, Malheur Co., June 15, 18, Borys Malkin; Sisters, Deschutes Co., June 13, 1951, Borys Malkin, on juniper; Lakeview, June 27, 1955; Borys Malkin; Lake of Woods, Klamath Falls, K. M. Fender; French Creek, Harney Co., June 21, 1951, Borys Malkin; Pueblo Mts., Harney Co., May 22, 1950, K. M. Fender; Steene Mts., Fish Lake, June 22–26, 1951, Borys Malkin; Mayville, June 21, 1938, M. H. Hatch; Bear Springs, Wapinita Cutoff, June 30, 1941, K. M. Fender; Umatilla Co., Emigrant State Park, June 19, 1938, M. H. Hatch. IDAHO: Hyndman Creek, Challis, N. F. Blaine; Caldwell, May 8, 1921, alt. 2367 ft. WYOMING: Grand Teton National Park, June 21, 1930, Van Dyke; Yellowstone Park, June 28, 1907, W. Robinson; Jenny Lake, Grand Teton National Park, June 24, 1938, Van Dyke.

Remarks: The gray appearance of these slender little beetles is the most noticeable character. The pubescence is dense, coarse, and of mixed white and very pale brownish hairs, and also covers the surface below, obscuring any lustre such as is evident in *G. septentrionalis*. The range of this species is more limited than that of *G. septentrionalis*, as it has not been found north of Oregon, and there only from the middle of the state eastward into southern Idaho and northwest Wyoming. There is only one record of its food plant, and that is of its being taken on juniper.

This species has been rather generally misidentified in collections possibly because Horn synonymized it with *G. albida* LeConte, which is a larger, more robust species and does not occur north of California. The type of *G. longior* is badly rubbed with little pubescence left, and since the pubescence in this genus is usually a good character in

separating the species, its lack makes it more difficult to understand. There are three small species of about the same size occurring in the northwest states. One, *G. artemisiae*, has a shorter and differently shaped prothorax. The other, *G. septentrionalis*, has a more bronzy lustre than *G. longior*, and generally, but not always, the prothorax has more rounded sides, and the pubescence is usually dark brown on the elytra.

***Glyptoscelis coloradoensis*, new species**

FIGURE 24

Between 6 and 8 mm. in length, oblong oval, piceous shining with a bronzy lustre, antennae reddish brown; prothorax and elytra not too densely or coarsely punctate and covered with dense coarse white and pale yellowish-brown hairs.

Head with interocular space more than half width of head, eyes emarginate at antennal sockets, a median line down front ending in a depression, densely and moderately finely punctate over occiput with lower front more coarsely punctate; hairs on occiput yellowish and finer, becoming coarser and white on lower front. Antennae long and slender with the outer joints a little wider. Prothorax slightly wider than long, convex with very slightly rounded sides, punctures anteriorly fine, becoming coarser and more oval in shape near base; pubescence thick, in middle tending to be yellowish, very feathery and white on sides. Scutellum with finer hairs. Elytra slightly depressed below scutellum, a short intrahumeral sulcus, punctation not very coarse, near base horizontally ridged; pubescence thick and coarse, some pale yellowish-brown hairs intermixed, not closely appressed but somewhat erect. Body beneath densely punctate and covered with densely, closely appressed white hairs. Length 6–7.8 mm.; width 2.8–4 mm.

Type: Male, and 35 paratypes, California Academy of Sciences, 10 of these in the U.S. National Museum.

Type-locality: Paonia, Delta County, Colo., collected by E. C. Van Dyke, June 14, 1926.

Other locality: UTAH: Mt. Carmel, near Zion Canyon, May 30, 1935, E. C. Van Dyke.

Remarks: Krauss has identified this as *G. longior* LeConte, and it is very similar in size and pubescence but has a wider prothorax and the aedeagus has a well-rounded apex with a small, very inconspicuous nodule at the tip, quite unlike the aedeagus of *G. longior*.

***Glyptoscelis septentrionalis*, new species**

FIGURE 22

Between 6 and 8 mm. in length, oblong oval, deep brownish black, shining with a bronzy lustre beneath a rather coarse, dense, and

dark brown and white pubescence, the white hairs being more pronounced along base and suture of elytra; punctation on prothorax dense, deep, often oval; on elytra not quite so dense, surface somewhat ridged below intrahumeral sulcus.

Head rather finely punctate over occiput with a median line ending in a depression in middle of front, more coarsely punctate on lower front; pubescence over occiput dark, fine, and not conspicuous, over lower front with coarser and white hairs; labrum tending to be reddish brown. Antennae rather long, reaching nearly to middle of elytra, deep reddish brown. Prothorax convex with nearly straight sides, only slightly rounded, densely and deeply punctate, punctures finer near anterior margin, pubescence in median area with finer and denser hairs, and on sides with more conspicuous, coarser, denser brown and white hairs. Scutellum with fine unusually dark hairs. Elytra slightly depressed below scutellum, punctation not as dense or coarse as on prothorax, somewhat ridged below intrahumeral sulcus; pubescence rather long and coarse, usually with more dark brown than white hairs, white hairs usually along basal margin and suture. Body beneath densely covered with a grayish, not pure white, sometimes even pale brownish pubescence. Length 6–8 mm.; width 2.8–4 mm.

Type: Male, USNM no. 69197 and 52 paratypes, 20 of which are in the U.S. National Museum, remainder in collection of University of Washington.

Type-locality: Diamond Lake, Douglas County, Oreg., June 24, 1941, K. M. and D. M. Fender.

Other localities: CALIFORNIA: Bair's Ranch, Redwood Creek, Humboldt Co., June 13, H. S. Barber. OREGON: McMinnville; Josephine Co., June 11, 1910; Grant's Pass. Apr. 28, 1934, F. M. Beer; Wimer, June 24, 1958, F. M. Beer; Tygh Valley, May 30, 1938; Mt. Hood, 5000–6000 ft., June 26, 1925, Van Dyke; Crater Lake, July 12, 1937, J. W. Green; alt. 7000 ft., July 16, 1939, M. C. Lane, on fir; Lake of Woods, Klamath Falls Rd., K. M. Fender; Meacham, May 22, 1935, M. C. Lane; Wallowa Lake, June 22, 1941, K. and D. Fender; Toll Gate Rd., Blue Mts., June 10, 1938, Van Dyke, Van Duzee; Blue Mts., July 16, 1933, M. C. Lane; Steen Mts., Harner Co., July 2, 1922, Van Dyke; mountains west of LaGrange, July 25, 1922, Van Dyke. WASHINGTON: Tacoma, May 15, 1945, M. J. Forsell; Shelton, May 25, 1935, on *Pinus contorta*, R. L. Furness; Lake Cle Elum, Apr. 27, 1939, Hatch and Wilson; Easton, June 14, 1930, W. W. Baker; June 10, 1938, M. C. Lane; Mt. Ranier; Pelous, Kamiak Butte, May 24, 1935, M. C. Lane; Newman Lake , June 11, 1922, M. C. Lane; Skamania Co., Little Huckleberry Mt., July 15, 1937, Jack Price; Mt. Adams, 6000–7000 ft., July 2, 1925, Van Dyke,

Bird Creek, Mt. Adams, July 2, 1925, Van Dyke; Walla Walla, May 13, M. C. Lane; June 20, 1941, K. and D. Fender; Blue Mts., Lewis Park, June 20, 1941, K. M. Fender; June 18, 1945, 4500 ft., M. C. Lane; Blue Mts., Blacksnake River, June 25, 1941, M. C. Lane; Republic, May 7, 1930, G. R. Hopping; Wawawai, Apr. 17, 1931, feeding on cherry; Pullman, June 8, 1901, C. V. Piper; Govan, Lincoln Co., W. S. Abbott, in *Phrynosoma* (horned toad). IDAHO: Coeur d'Alene, May 5, 1920, J. S. Evenden, on *Pinus ponderosa*; Moscow, May 30, 1920, alt. 3200 ft., W. E. Shull. MONTANA: Sula, June 24, 1929, alt. 4700 ft., W. E. Shull. BRITISH COLUMBIA: Vernon, May 13, 1926, R. Hopping; North Bend, June 6, Hubbard and Schwarz.

REMARKS: Although apparently this is one of the most common species of *Glyptoscelis* in the Pacific Northwest, it has never been recognized as a species different from those already described, but has been confused with either *G. sequoia*, a more southern species living on *Sequoia sempervirens*, or with *G. albida*, which does not extend into Oregon or Washington either, and is a larger, more robust beetle. There are several records of *G. septentrionalis* being taken on "fir," one on *Pinus contorta* and one on *P. ponderosa*. It has a quite different aspect from *G. sequoiae*, which is a very lustrous coppery beetle with pubescence that varies from yellowish to brownish but is never white. In contrast, *G. septentrionalis* is piceous, shining with a bronzy lustre, and the coarse pubescence on the elytra in particular is usually dark brown with scattered white hairs. Its range is from northern California to British Columbia, and eastward through Idaho into Montana.

Glyptoscelis artemisiae, new species

FIGURE 18

From 6 to 7 mm. in length, oblong oval, shining bronzy black under coarse white pubescence, pubescence on elytra forming more or less distinct white vittae, giving it a striped appearance; prothorax coarsely and densely punctate, elytra not so coarsely but densely punctate; aedeagus truncate and not rounded at apex.

Head with interocular space more than half width of head, eyes slightly emarginate at antennal sockets, a median line down front ending in a depression, densely punctate, lower half more coarsely so, covered with white pubescence that is finer on occiput. Antennae extending below humeri, slender, outer joints somewhat thicker, seventh joint long, reddish brown to piceous. Prothorax wider than long with nearly straight sides, convex, depressed along base; densely and coarsely punctate and covered with coarse pubescence that in middle tends to be pale brownish, white along sides. Scutellum with a few finer white hairs. Elytra with prominent humeri, deep intrahumeral sulcus, a small basal callosity with depression below, a little

depressed below scutellum; punctation coarser near base with some horizontal ridging, becoming finer towards apex, covered with pale brown and white pubescence, coarse and closely appressed, and in most specimens with vittate lines of thicker white hairs giving it a striped appearance. Body beneath densely punctate and covered with closely appressed white pubescence, tibiae and tarsi deep reddish brown. Length 6–7 mm.; width 3–4 mm.

Type: Male, and 9 paratypes, U.S. National Museum type no. 69198.

Type-locality: Sardis, Wash., taken on sagebrush, May 21, 1899.

Other localities: WASHINGTON: Washington Experiment Station, W. S. Abbott, 1932; Ewan, June 28, 1920, R. C. Shannon; Lind, May 15, 1922, M. C. Lane; Washington Territory, J. B. Smith; Ritzville, May 6, 1921, M. C. Lane; Grand Coulee, Dry Falls Lake, Apr. 21, 1957, M. H. Hatch; Upper Grand Coulee, Apr. 26, 1936, M. H. Hatch; Moses Coulee, Apr. 4, 1947, George Schenk; Dry Falls, May 14, 1938, M. H. Hatch; Pullman, C. V. Piper, M. C. Lane; Vantage, May 4, 1935, Hatch and Wilson; Kahlatus, Sandhills, Apr. 18, 1955, M. H. Hatch; Kamiak Butte, May 7, 1935; Cheney, May 24, 1940; Kittitas, May 4, 1935, Hatch and Wilson; Roza, Kittitas Co., May 19, 1957, M. H. Hatch; Uniontown, May 20, 1939, M. C. Lane; Euphrata, Apr. 19, 1935, M. H. Hatch; Prosser, Apr. 25, 1911; Tieton, Yakima Co., Ewan; Almoto, Wawawai; Yakima Co., April 29, 1919, on sagebrush, E. J. Newcomer; Republic, May 7, 1936, G. R. Hopkins. OREGON: Baker Co., July 1922. BRITISH COLUMBIA: Okanagan Falls, E. S. Ross; Spious Creek, May 28, 1920, R. Hopping; Vernon, May 2, 1932, R. Hopping; Wardner, May 13, 1927, A. A. Denays. IDAHO: Juliaetta, J. M. Aldrich. ALBERTA: Medicine Hat, June 26, 1927, F. S. Carr.

Remarks: This small species has been taken by several collectors on sagebrush. It has been in the past identified as *G. longior* LeConte by Krauss and *G. albida* LeConte by others, but it is a distinct little species easily identified by the squarely truncate apex of the aedeagus and the white vittate pattern in the elytral pubescence. As in *G. albida* the pubescence is coarse and white. It is one of the two most northernmost of our species of *Glyptoscelis* and it ranges from northeast Oregon and northern Idaho throughout eastern Washington to British Columbia and Alberta. The other most northern species, *G. septentrionalis*, has a wider, more southern as well as coastal range, from Humboldt County in the northwestern part of California, throughout Oregon and Washington to British Columbia. It also ranges eastward in Idaho and there is one record of its occurrence in Montana. This species has been recorded on "fir" trees. It has a distinct bronzy lustre in contrast to the shining black of *G. artemisiae*, and

usually the elytra are covered with thick brownish pubescence with some white hairs intermingled. There is a third northern species, *G. longior* LeConte, whose type-locality is Atlanta, Idaho, and which does not extend north of Oregon but is found also in Wyoming in the Yellowstone National Park area. All three species are small and easily confused and from essentially the same northwestern area.

Glyptoscelis paula, new species

FIGURE 19

About 6 mm. in length, elongate oblong oval, shining piceous beneath coarse white pubescence. Antennae and tarsi reddish brown, claw with inner tooth near tip making it appear bifid.

Head with interocular space slightly more than half width of head, eyes emarginate at antennal sockets, occiput very finely and sparsely punctate, more coarsely punctate on lower front with coarser white pubescence, a median line ending in a depression in middle of front. Antennae extending below humeri, reddish brown. Prothorax almost as long as wide with nearly straight sides, convex, moderately densely and not coarsely punctate, with finer white hairs than on elytra. Elytra with prominent humeri and an intrahumeral sulcus and faintly depressed area about scutellum, rather finely and not densely punctate and not too densely covered with coarse white and pale brown hairs. Body beneath densely pubescent. Length 6 mm.; width 2.7 mm.

Type: Male, U.S. National Museum no. 69199.

Type-locality: Wendell, Idaho, May 19, 1933, "on pure stand of *Artemisia tridentata*."

Remarks: The slender shape and small size of this species distinguish it from *G. parvula* Blaisdell and *G. coloradoensis*. Like both of them the claw has an inner tooth near the tip and the aedeagus like them has a rounded apex. The head in *G. paula* is unusually smooth and with punctures only along the median line on the occiput and front, and in this respect it differs from the other species, which are all densely and coarsely punctate over the entire head. In its slender shape as well as its faintly vittate elytral pubescence, it resembles *G. artemisiae*, another small species, but the aedeagus in *G. artemisiae* is truncate and not rounded at the tip. Only one specimen is known.

Glyptoscelis parvula Blaisdell

FIGURE 25

Glyptoscelis parvulus Blaisdell, 1921, Stanford Univ. Publ. Biol. Ser., vol. 1, no. 3, pp. 196–7.

Glyptoscelis parvula Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, pp. 28–29.

Between 5 and 7 mm. in length, elongate oblong oval, shining, dark piceous beneath moderately coarse but not dense white and pale brown

pubescence, legs and antennae reddish brown, prothorax convex, widest at middle and narrowed at base, densely punctate.

Head with median line ending in a depression in middle of front, densely punctate, punctures in lower front coarser, covered with white appressed hairs, eyes a little emarginate at antennal sockets, labrum reddish brown. Antennae extending below humeri, outer joints considerably thicker, reddish brown deepening to dark brown, covered with fine white pubescence. Prothorax convex but depressed along base, widest at middle, contracted at base, punctation deep, dense, elongated, rather sparsely covered with white and often pale brown hairs. Scutellum with finer hairs. Elytra with a slight depression about scutellum and another below basal callosities, in which punctures show horizontal ridging, punctures deep, not very close and becoming finer towards apex; pubescence not so dense as to hide completely punctures, of mingled pale brown and white moderately coarse hairs, giving a pepper and salt appearance. Body beneath densely punctate with dense, white, closely appressed pubescence. Legs reddish brown, claw joint with inner tooth near apex, giving it a bifid look. Length 5–7 mm.; width 2.6–3.6 mm.

Type: Male, in California Academy of Sciences.

Type-locality: Sacramento, Calif., collected May 28, 1918, on willow by E. P. Van Duzee.

Other localities: CALIFORNIA: Sacramento Co.: Courtland, May 6, 1920, F. H. Wymore; Michigan Bar, Apr. 24, 1922, E. G. Thompson. Solano Co., Rio Vista, May 25, 1926. Alameda Co.: Piedmont, May 23, 1921. Butte Co.: near Butte Creek, Chico, Apr. 25, 1922, E. P. Van Duzee. Tehama Co.: Los Molinos, Apr. 1, 1932, on *Salix*, E. F. Wohlet; also taken at Sacramento by E. H. Wohlet on wild rose, and by Helen Van Duzee, Apr. 24, 1922, A. T. McClay, Apr. 3, 1936, C. M. Packard, Apr. 26, 1920.

Remarks: This is one of the smallest species of *Glyptoscelis* in the United States, comparable in size to *G. paula*, which occurs in Idaho on *Artemisia*. *Glyptoscelis parvula* is more rounded and less elongate and has thicker antennal joints. It has been collected on willow and wild rose and seems to be confined to the counties about Sacramento, its type-locality.

Glyptoscelis illustris Crotch

FIGURE 17

Glyptoscelis illustris Crotch, 1873, Proc. Acad. Nat. Sci. Philadelphia, p. 35.—Horn, 1892, Trans. American Ent. Soc., vol. 19, p. 262.—Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, p. 23.

Between 9 and 11.5 mm. in length, elongate oblong oval, lustrous, bronzy black, strongly punctate and with brown and white pubescence,

the white hairs being coarser and forming a pattern on elytra along suture and sides and two vittate white lines in apical half, the brownish hairs finer and more silky; elytra with a marked depression below scutellum and also a deep one below basal callosities.

Head with interocular space much more than half width of head, eyes with small emargination at antennal sockets, a well-marked and usually indented median line down front ending in a slight depression; punctation dense, moderately coarse and becoming coarser in lower part, pubescence over front brown, around eyes and mouthparts white. Antennae extending well below humeri, rather slender without much thickening of apical joints, seventh joint long, all reddish brown. Prothorax nearly as long as wide with rounded sides curving forward about eyes, disc convex, without depressions, very shiny, deeply and moderately coarsely punctate, punctures tending to be elongate and in middle often disappearing, leaving a linear median bare area, sometimes a depression on either side near lateral edge and below middle, from which pubescence radiates; pubescence over middle very fine, silky and brown, over sides becoming coarser and white. Scutellum with a few fine brown hairs. Elytra with well-marked humeri and intrahumeral sulcus, widely depressed around and below scutellum, a basal callosity and below it a transverse depression; surface very lustrous, often with rosy or coppery lights, not too densely and moderately coarsely punctate, without horizontal ridging, punctures becoming finer toward apex; pubescence forming a pattern with coarser white hairs along base, suture and in short vittae below middle and along sides, with a widening at middle, rest of surface with inconspicuous silky brown hairs not very dense or obscuring surface. Body beneath densely punctate and evenly covered with white appressed hairs; legs deep reddish brown, hairs at apex of tibiae long, silky, and brownish in color. Length 9–11.7 mm.; width 4.5–5.5 mm.

Type: Male, in Museum of Comparative Zoology. There are three specimens, the first two labelled "Calif." and the third without a label.

Type-locality: Crotch gives "California (Horn) and Oregon (Walsingham)."

Other localities: OREGON: A. T. McClay, July 11, 1938; Klamath Falls, July 8, 1934, Van Dyke; Grant's Pass, on *Pinus ponderosa*, Apr. 24, 1949; Prospect, June 14, 1941, L. G. Gentner. CALIFORNIA: Kernville, Dec. 28, 1936; Bear Flat, Warner Mts., Modoc Co., July 10, 1919, on *Pinus ponderosa*, Ralph Hopping; Mokel Hill, F. E. Blaisdell; Carrville, Trinity Co., alt. 2400-2500 ft., Van Dyke; Forest Hill, Placer Co., April 1898, on *Pinus ponderosa*, Van Dyke; Stevenson Creek, Sierra National Forest, May 27, 1915, on *Pinus ponderosa*, Ralph Hopping; Nevada City, May 16, 1930, E. P. Van Duzee; Davis Meadow, R. R. Flats, 2800 ft., July 8, 1907, F. E. Blaisdell;

Bass Lake, Madera Co., Apr. 24, 1934, H. P. Allen; Sonora, Tuolumne Co., Apr. 17, 1934, E. P. Van Duzee; Pyramid, Ranger Sta., F. B. Herbert, on *Juniperus occidentalis*.

Remarks: The large size, lustrous bronzy coloring and silky brown pubescence mingled with the coarser white hairs that form a vittate pattern at the apex of the elytra distinguish this species.

***Glyptoscelis aridis* Van Dyke, new status**

FIGURE 16

Glyptoscelis illustris ssp. *aridis* Van Dyke, 1938, Ent. News, vol. 49, p. 194.

From 8 to 10.5 mm. in length, oblong oval, shining bronzy black beneath the coarse white and yellowish-brown pubescence; prothorax nearly as long as wide, densely and coarsely punctate with yellowish-brown pubescence in middle and white hairs on sides; elytra nearly covered with dense coarse white hairs with yellowish-brown hairs forming short vittae, especially in apical half; somewhat depressed about scutellum and a shallow transverse depression below basal callosities; punctation on pronotum deep, round, not too coarse, and on elytra becoming finer toward apex.

Head with interocular space more than half width of head, surface densely punctate, more coarsely on lower half, covered with thick white pubescence and across front with light yellowish-brown thick hairs, a median line ending in a small depression on front. Antennae extending below humeri, dark reddish brown with white pubescence, seventh joint long. Prothorax somewhat wider than long with rounded sides, shining, deeply, densely, but not coarsely punctate, sides well covered with coarse white pubescence, in middle less densely by yellowish-brown pubescence. Scutellum with many white hairs. Elytra with prominent humeri, a short intrahumeral sulcus, a depressed area about scutellum and below basal callosities; surface shining beneath coarse, semierect hairs that are mostly white but with yellowish-brown hairs on basal callosities and in vittate areas near apex; punctation moderately coarse and dense, with little horizontal ridging, becoming finer toward apex. Body beneath uniformly covered with white appressed pubescence, the hairs near apex of middle and hind tibiae becoming yellowish. Length 8–10.5 mm.; width 4.5–5.1 mm.

Type: In California Academy of Sciences.

Type-locality: Westgard Pass Plateau, Inyo County, Calif., taken May 27, 1937, Van Dyke collector, June 7, 1937, L.D. Phillips.

Other localities: CALIFORNIA: Argus Mts., Inyo Co., on *Pinus monophylla* Voss, Hubbard and Schwarz, May 1891.

Remarks: Although Van Dyke regarded this as a subspecies of *G. illustris*, there is sufficient difference in the pubescence as well as

the aedeagus to make it a distinct species. In its general appearance it is a much paler beetle due to its coarse and dense white pubescence, in which the brown hairs are coarser and fewer than are those of *G. illustris*. There is very little elytral surface to be seen because of this dense pubescence, whereas in *G. illustris* the shining, even coppery, surface is very apparent.

Glyptoscelis cylindrica, new species

FIGURE 20

About 7 mm. in length, elongate oblong oval, almost cylindrical, shining black, densely and coarsely punctate and with a very fine erect yellowish or grayish hair from each puncture, hairs on undersurface more appressed, legs and antennae deep reddish brown.

Head with interocular space considerably more than half width of head, eyes with tiny emargination at antennal socket, occiput and front coarsely and contiguously punctate, a small depression in middle of front, a semierect fine silken hair from each puncture, head shiny piceous except for reddish-brown labrum. Antennae extending slightly below humeri, basal joint globular, joints two to five thinner than outer joints, seventh joint long. Prothorax as wide as elytra and approximately as wide as long, strongly convex, sides rounded, disc slightly depressed along base, punctures dense and each with a fine hair. Scutellum unusually broad and short, punctate. Elytra deeply and almost contiguously punctate, each puncture with a long, erect, silky pale hair, producing a fuzzy effect, humeral prominences lacking (probably a wingless beetle), otherwise without depressions. Body beneath shining, slightly less coarsely punctate, the pale pubescence more appressed but not coarser; legs reddish brown, covered with long, semierect pale hairs, tibiae rather short. Length 6.8 mm.; width 3.1 mm.

Type: ?female, in California Academy of Sciences.

Type-locality: Cotati, Sonoma County, Calif., May 5, 1948, E. H. Calkins.

Remarks: This is the most aberrant in appearance of any species of *Glyptoscelis*, yet it is undoubtedly of that genus. The fuzzy silky hairs that are not appressed but erect, and the lack of humeral prominences are its most distinctive characters. Otherwise it resembles other species of the genus with its coarsely punctate dark surface, its sulcate tibiae and toothed claws. Only one specimen is known. That the beetle probably is wingless doubtless explains the limitation of its distribution.

Glyptoscelis prosopis Schaeffer

FIGURE 26

Glyptoscelis prosopis Schaeffer, 1905, Bull. Brooklyn Mus., vol. 1, no. 7, p. 169.—Krauss, 1937, Univ. California Publ. Ent., vol. 7, no. 2, p. 25.

From 7 to 9 mm. in length, elongate oblong oval, elytra shining with a bronzy lustre, legs and antennae deep reddish brown, covered with fine white pubescence, pattern of pubescence on pronotum with hairs parting in middle and falling in feathery pattern downward, and on the sides arranged more horizontally; punctation shallow, often contiguous, in some specimens remnants of a bare median line; elytral punctation not so dense, pubescence a bit coarser.

Head with interocular space more than half width of head, eyes with a small emargination at antennal sockets, finely and densely punctate and covered with white pubescence, sometimes a median bare line; labrum reddish brown. Antennae extending below humeri, apical joints widened, seventh joint long, reddish brown, the apical joints often deep brown. Prothorax not much wider than long, strongly convex, with a decided convexity in middle, sides slightly rounded, punctation dense, shallow, in places coarse and often a remnant of bare line down the middle; pubescence white, fine, and arranged in feathery pattern from middle, not horizontally but downward, becoming more horizontal on sides. Scutellum broad and rather short, with a few fine white hairs. Elytra elongate, not much wider than prothorax, with well-marked intrahumeral depression, no depression near scutellum but a slight transverse one below intrahumeral sulcus; punctation coarse, not so dense as on pronotum and covered rather densely by moderately coarse, closely appressed long hairs; considerable horizontal ridging in basal half on disc. Body beneath covered with coarser and denser white hairs, legs reddish brown. Length 7–9 mm.; width 3.2–4.3 mm.

Type: In U.S. National Museum, with 2 paratypes.

Type-locality: Esperanza Ranch, Brownsville, Tex. Also collected at Brownsville, June 25, 1930, by J. O. Martin, and taken on a plane at Brownsville, June 24, 1948.

Remarks: This species differs from the other United States species of *Glyptoscelis* and resembles many species from Mexico and Central America and even South America by having remnants of a median bare line on the pronotum. It differs from *G. mexicana* Jacoby in having a lustrous and not dull opaque surface. There is no prolongation at the tip of the elytra.

Key to Mexican and Central American Species of *Glyptoscelis*

1. Elytra with tips narrowly prolonged 2
   Elytra with tips not prolonged 3
2. From 8 to 10 mm. in length with long tip to elytra (Nicaragua).
   chontalensis Jacoby
   About 7.5 mm. in length with shorter tip to elytra (Guatemala).
   guatemalensis, new species

3. Prothorax without median bare line, surface dull opaque black. **mexicana** Jacoby
Prothorax with median bare line 4
4. Elytral punctures fine and tending to be in double rows, widely separated by bare intervals . . . . . **cahitae,** new species
Elytral punctures denser and coarser . . . . . **sonorensis,** new species

***Glyptoscelis sonorensis*, new species**

FIGURE 27

From 6 to 8 mm. in length, elongate oblong oval, shining dark reddish brown to piceous, antennae and legs pale reddish brown; prothorax with remnants of a median impunctate line, densely and not coarsely punctate; elytra with small humeri, narrow, not much wider than prothorax, a slight transverse depression below scutellum, elytral punctation not so dense as on prothorax, white patches of denser hairs in places.

Head with interocular space slightly more than half width of head, a median bare line down front, punctures not very dense or coarse beneath the closely appressed white pubescence. Antennae extending below humeri, reddish brown. Prothorax nearly as wide as elytra, wider than long, not so convex as in *G. prosopis*, a median impunctate line, otherwise with dense and rather fine punctation; pubescence arranged in feathery downward-falling pattern from median line, becoming more horizontal on sides. Scutellum with a few finer white hairs. Elytra with weak humeri and short intrahumeral sulcus, a slight transverse depression behind scutellum, elytral punctation not so dense as on prothorax with some ridging, pubescence white, thick, with patches of denser hairs arranged in lines sometimes present. Body beneath thickly covered with white pubescence. Legs reddish brown. Length 6.3–7.8 mm.; width 3–3.8 mm.

Type: Male, California Academy of Sciences, and 24 paratypes, of which 6 are in the U.S. National Museum.

Type-locality: Alamos, Sonora, Mexico, Aug. 1, 1940, R. P. Allen.

Remarks: This species closely resembles *G. prosopis* Schaeffer from Brownsville, Tex., but has a less bulging occiput, a more marked median bare line down the pronotum, less marked elytral humeri, and the inner tooth on the claws is farther down near the base. The elytral pubescence of the Sonoran species usually shows thicker patches of white than is present in the Texas species, and the pubescence over the head and pronotum is coarser than in *G. prosopis*. The two species are very similar except for these minor differences.

***Glyptoscelis cahitae*, new species**

FIGURE 29

From 7.5 to 9 mm. in length, oblong oval, somewhat shiny, piceous, antennae and sometimes tibiae and tarsi deep reddish brown; prothorax densely and shallowly punctate with well-marked median bare line, elytra with rather fine punctation tending to be geminate striate, some ridging near base and bare lines parallel to suture in apical half; white pubescence on prothorax fine and thick, coarser on elytra with some denser white patches in rows.

Head with interocular space approximately half width of head, a median bare impunctate line down front, a little swollen or ridged in middle of front, and with fine, thick, closely appressed white pubescence. Antennae extending slightly below humeri, basal joint dark, remainder slightly paler and usually deep reddish brown, the outer joints somewhat thickened. Prothorax wider than long with curved lateral sides, moderately convex and nearly as wide as elytra; a prominent bare median vertical line, on each side of which dense, shallow punctures with fine dense white pubescence arranged in a pattern away from median line toward base, and more horizontally toward sides near sides. Scutellum with a few white hairs. Elytra not much wider than prothorax, with small, not prominent humeri and very little intrahumeral sulcus; punctation rather fine, some horizontal ridging near scutellum and below humeri; punctures tending to be in double rows with bare intervals particularly near apex and suture. Body beneath with white pubescence, thicker on sides of metathorax; tibiae and tarsi sometimes not quite so dark piceous as femora. Length 7.5–9 mm.; width 3.5–4.4 mm.

Type: Male, in California Academy of Sciences, and 23 paratypes, of which 6 are in U.S. National Museum.

Type-locality: Los Mochis, Sinaloa, Mexico, collected in June and July 1922 by C. T. Dodds.

Other locality: Yaki Valley, Mexico, A. W. Morrill, Feb. 8, 1922.

Remarks: This is the third species of a group made up of *G. prosopis* Schaeffer from Brownsville, Tex., *G. sonorensis* from Sonora, Mexico, and the present one, *G. cahitae*, which differs from the other two by being generally wider and more robust in appearance. Like the Sonoran species this one differs too from *G. prosopis* in having inconspicuous humeri. The elytral punctation is different from both the others in that the punctures are more widely separated with bare intervals especially noticeable in the apical half. As in the Sonoran species the claw is toothed nearer the base than in *G. prosopis*.

Glyptoscelis mexicana Jacoby

FIGURE 28

Glyptoscelis mexicanus Jacoby, 1882, *in* Biologia Centrali-Americana, Coleoptera, vol. 6, pt. 1, p. 177.

Between 7 and 9 mm. in length, elongate oblong oval, alutaceous, not at all shiny, dull piceous black with fine white pubescence, legs and antennae deep reddish brown, prothorax densely and almost contiguously, shallowly, and not coarsely punctate, elytra with punctures not quite so dense and also shallow and not very coarse, with white pubescence that in type is rubbed off except about sides. Each elytron acute at tip but not noticeably prolonged.

Head with interocular space about half width of head, front densely and shallowly punctate under the appressed white pubescence, a median occipital depression. Antennae reddish brown, extending below humeri. Prothorax somewhat wider than long, smoothly convex, without depressions, with well-rounded sides, no median ridge or line, punctures shallow, dense, finer anteriorly becoming coarser and more contiguous in middle and towards base, pubescence so rubbed that no pattern is visible. Scutellum with fine punctures and pubescence. Elytra convex with sharp humeral prominences, and a short, deep intrahumeral sulcus, a slight basal callosity on each side of scutellum with a transverse depression below; punctation not so dense as on prothorax but similar in being shallow and not very coarse, becoming finer and not so dense towards apex; pubescence appressed, in type specimen rubbed off except about edges. Body beneath covered with dense white coarse hairs. Length 7.5–9 mm.; width 2.6–3.2 mm.

Type: Museum of Comparative Zoology, Cambridge, Mass. Cotype in British Museum (Natural History).

Type-locality: Playa Vicente (Oaxaca) Mexico, Sallé collection.

Remarks: Jacoby wrote that he had two specimens; one is in the Bowditch collection, the other in the British Museum (Natural History). I have seen no other specimen from Mexico or Central America like them with their dull, opaque upper surface. The elytra are acute at the tip but not prolonged.

Glyptoscelis chontalensis Jacoby

FIGURE 30

Glyptoscelis chontalensis Jacoby, 1882 *in* Biologia Centrali-Americana, Coleoptera, vol. 6, pt. 1, p. 176.

From 8 to 10 mm. in length, elongate oblong oval, with prolonged tip to elytra, shining piceous beneath the long white appressed

pubescence, prothorax finely punctate with a median bare impunctate line, from which a transverse pubescence; elytra more coarsely punctate with horizontal ridging.

Head with interocular space a little more than half width of head, a median bare line down front, eyes emarginate at antennal sockets, punctation dense and becoming coarser in lower part under a dense white pubescence, labrum reddish brown. Antennae reddish brown, with outer joints often darker, extending below humeri, outer joints wider, seventh joint long. Prothorax wider than long, strongly convex, lateral sides curved and anteriorly projecting around eye; a median bare line and some round bare spots on disc, otherwise densely and rather finely punctate, a fine white pubescence extending from median line horizontally, and often thicker on sides. Scutellum shining piceous with a few white hairs. Elytra widest at humeri, tapering toward apex, where sides are pinched in and end in a sharp prolonged tip, not divergent; not depressed about scutellum but evenly convex, a short intrahumeral sulcus, humeri prominent; punctation coarser than on pronotum and not so dense with horizontal ridging between rows of punctures, sometimes a bare line parallel to suture near apex; surface shining with a bronzy lustre and thinly covered with pale appressed pubescence. Body beneath with thick white pubescence, especially heavy on sides, legs dark reddish brown. Length 8–10 mm.; width 3.6–4.5 mm.

Type: In Museum of Comparative Zoology, Cambridge, Mass. Cotype in British Museum (Natural History).

Type-locality: Chontales, Nicaragua, T. Belt collector.

Other localities: SALVADOR: Metapan, July 5, 1954; San Salvador, June 10, 1925, K. A. Salman.

Remarks: This is another of the species with prolonged tips to the elytra. The two South American species, *G. aeneipennis* Baly and *G. fasciculatis* Baly, both have less pronounced and not so long tips at the apex of the elytra. The North American species *G. cryptica* Say has the tips more marked in the male and is of a reddish-brown color with scalelike pubescence and coarser punctures, especially on the pronotum. *Glyptoscelis cryptica* also has simple claws. Unlike these other species the tips of *G. chontalensis* are not divergent but united into one prolonged apex.

***Glyptoscelis guatemalensis*, new species**

FIGURE 32

Approximately 7.5 mm. in length, oblong oval, shining bronzy black, sometimes with a greenish lustre, antennae and legs deep reddish brown, prothorax rather finely punctate with a median

vertical bare line, elytra with a narrow prolongation, more marked in male, whole body covered with fine white hairs.

Head very lightly punctate over occiput and more densely but finely punctate on front, with fine, white, closely appressed hairs; eyes slightly emarginate at antennal sockets, labrum reddish brown. Antennae reddish brown, slender, extending below humeri. Prothorax not very convex with rounded sides, an acute tooth at basal and apical angles, and an impunctate median line, punctures fine and shallow, moderately dense, with fine white pubescence falling horizontally away from median bare line. Scutellum shining piceous with a few white hairs. Elytra not much wider than prothorax with humeral prominences, not depressed at all below scutellum but with a little swelling there; punctation fine, not dense, and with horizontal ridging between, particularly noticeable on sides below humeri; apex of elytra with a prolonged narrow tip, not divergent and not so well developed in female; pubescence fine, white, and not entirely concealing surface beneath; in one specimen pale brown hairs intermixed. Length 7.5 mm.; width 3.4 mm.

Type: Male, in British Museum (Natural History). One paratype in U.S. National Museum.

Type-locality: Guatemala, Baly collection.

Remarks: There is a third specimen in the British Museum with similar labels of "Guatemala" and "Baly collection" that may possibly not be this species. In this one, the prothorax is deep reddish brown and the elytra have an aeneous green lustre. It is unfortunately a female, and there is only the slightest trace of a prolonged tip to the elytra. *Glyptoscelis guatemalensis* is a smaller and more slender species than *G. chontalensis* Jacoby and the prolongation of the elytra not so developed, particularly in the female. There is a more pronounced tip to the aedeagus, which in *G. chontalensis* is smoothly rounded without an acute tip at all.

Key to South American Species of *Glyptoscelis*

1. From 11.5 to 14.5 mm. in length (Brazil, Argentina) . . . . **gigas** Jacoby
   Smaller 2
2. Tips of elytra narrowly prolonged 3
   Tips of elytra not prolonged 4
3. Aedeagus triangular at apex, pubescence on prothorax with vittate pattern . . . . **fascicularis** Baly
   Aedeagus round at apex, pubescence on prothorax without vittate pattern . . . . **aeneipennis** Baly
4. Aedeagus with a long narrow tip 5
   Aedeagus rounded at apex 6
5. Prothorax with a median bare area (Colombia) . . . . **dohrni** Jacoby
   Prothorax without a median bare area (Chile) . . . . **gayi** Lefèvre

6. Prothorax reddish brown, elytra faintly aeneous (Paraguay). **paraguayensis** Jacoby

Prothorax piceous black 7

7. Prothorax approximately as wide as elytra and not very convex (Chaco and Formosa Provinces, Argentina) . . . . . **pinnigera** Blake

Prothorax more convex, with more apparent median bare line (Entre Rios Province, Argentina) . . . . . **monrosi** Blake

Glyptoscelis dohrni Jacoby

FIGURE 38

Glyptoscelis dohrni Jacoby, 1900, Trans. Ent. Soc. London, p. 501.

About 6 mm. in length, oblong oval, shining, elytra with faint bronzy lustre, mostly lustrous black, antennae and legs reddish brown; prothorax moderately finely and not very densely punctate with a median bare line, elytra more coarsely but not much more densely punctate with white appressed pubescence that on prothorax is horizontally arranged, not so dense as to obscure surface on either prothorax or elytra.

Head shining, finely and sparsely punctate and lightly covered with white pubescence, lower front with a median impunctate line, labrum reddish brown, interocular space barely half width of head, eyes with only slight emargination at antennal sockets. Antennae short, extending below humeri, outer joints somewhat thickened, seventh joint long, pale reddish brown. Prothorax moderately convex, widest at base with only slightly curved sides, anterior angle curved forward below eyes; punctation moderately dense and not coarse, with a median bare line, a fine feathery pubescence arranged horizontally from median line, not entirely obscuring shining black surface. Scutellum black, with a few fine white hairs. Elytra not depressed about scutellum, tapering to apex, which is pinched in but not at all prolonged; intrahumeral depression faint, surface very shiny with a faint bronzy lustre and moderately coarsely and not densely punctate with a tendency to horizontal ridging; white pubescence not dense or obscuring surface. Undersurface with thick white pubescence, denser along sides, legs reddish brown. Length 6.2 mm.; width 3 mm.

Type: In British Museum (Natural History), with 3 paratypes.

Type-locality: Colombia, collected by Rehlke.

Other locality: COLOMBIA: Cartegena, Bolivar Prov., on chaparral, July 11, 1920, F. R. Mason.

Remarks: The smaller size and stouter build as well as lack of any prolongation at the apex of the elytra differentiate this from the other two Colombian species, *G. aeneipennis* Baly and *G. fasciculatis* Baly. The aedeagus is unusual in shape with a tip that is narrowly

prolonged. Jacoby wrote that specimens were in his collection and also in the Stettin Museum.

Glyptoscelis aeneipennis Baly

FIGURE 36

Glyptoscelis aeneipennis Baly, 1865, Trans. Ent. Soc. London, ser. 3, vol. 2, p. 334.

From 7.5 to 8.5 mm. in length, elongate oblong oval, apex of elytra with a prolonged tip; elytra usually having a greenish lustre, head, prothorax, antennae and legs reddish brown, sometimes head and prothorax piceous; prothorax not very coarsely punctate with a median bare line and some bare round spots; elytra more coarsely punctate and horizontally ridged in places, postscutellar region not at all depressed, a little raised; pubescence on prothorax feathery and arranged horizontally from median line, on elytra not so thick as to cover surface, white interspersed with brownish hairs and scattered patches of thicker white hairs in four rows on each elytron.

Head with interocular space approximately half width of head, usually a median depressed line down occiput and front, which are finely and not densely punctate and thickly covered with fine white appressed pubescence; labrum usually yellowish or reddish brown. Antennae reddish brown, extending slightly below elytral humeri; apical joints not much widened, seventh joint longer than rest. Prothorax moderately convex with lateral sides nearly straight, broadest at base, basal margin sinuate over scutellum; disc shining, finely punctate, with bare median line and scattered small round bare spots, mostly near apex and base on either side of median line; reddish brown or piceous. Scutellum deep reddish brown or piceous with a few white hairs. Elytra with an intrahumeral sulcus and a somewhat raised postscutellar region, greatest width at humeri, gradually tapering after the middle to the apex, which is produced noticeably into two slightly divergent tips; surface shining, usually with a greenish lustre, more coarsely punctate than prothorax, punctures tending to be geminate striate with the intervals having finer punctures, some horizontal ridging; pubescence usually white with scattered brown hairs and a few denser patches of white distributed unevenly on each elytron in four lines. Body beneath covered with white, closely appressed pubescence, denser on sides; legs usually reddish brown. Length 7.5–8.5 mm.; width 3.5–3.8 mm.

Type: In British Museum (Natural History).

Type-locality: Venezuela, Trinidad.

Other localities: VENEZUELA: Santa Rita, Edo. Aragua, June 25, 1943, injuring *Gossipium hirsutum*, G. V. Berthier; Maracay, May 1935, A. Escalona Salas. COLOMBIA: Carare, 1939, H. Daniel; Pto. Berrie, Aug. 3, 1938, H. Dybas.

Remarks: The type of this species in the British Museum is a much rubbed specimen, but what is left of the feathery white pubescence on the prothorax is typical. On the elytra the pubescence is mostly white with numerous thicker patches, in rows. The prothorax and scutellum are reddish brown. The apex of the aedeagus is like that of many other species, being rounded with a tiny knob at tip. This species is the first of two described by Baly on the same page, the second one being *G. fascicularis*, whose habitat is given as Colombia. *Glyptoscelis fascicularis* was synonymized by Jacoby with *G. aeneipennis*. It is very difficult to separate the two by any external characters, but the aedeagi are entirely different. Baly gave the differences as being that *G. fascicularis* is somewhat larger with fuscous pubescence on the upper side of the body. The latter character, the fuscous pubescence, is better than the size, which is not very different in many specimens. *Glyptoscelis aeneipennis* has more uniformly white pubescence, especially noticeable on the prothorax. Often, however, the white elytral pubescence is interspersed with brownish hairs, but not quite to the extent of *G. fascicularis*.

***Glyptoscelis fascicularis* Baly**

FIGURE 35

Glyptoscelis fascicularis Baly, 1865, Trans. Ent. Soc. London, ser. 3d, vol. 2, p. 334.
Glyptoscelis aeneipennis Jacoby, 1900, Trans. Ent. Soc. London, p. 502.

From 7.5 to 10 mm. in length, elongate oblong oval, widest at humeri, elytra tapering and with a narrow apical prolongation; postscutellar area with a definite hump; elytra usually with greenish lustre, prothorax and scutellum usually and antennae and legs always reddish brown; usually brownish pubescence on prothorax arranged horizontally from median bare impunctate area, and usually heavier white pubescence on sides and on each side of middle, forming four white vittae; pubescence on elytra usually brownish with denser white patches in rows.

Head with interocular space half width of head, a median line down front, finely punctate, and with brownish pubescence. Antennae pale reddish brown, extending below humeri, not much widened in apical joints, seventh joint long. Prothorax moderately convex with slightly rounded lateral sides, widest at base, a median bare line and round bare spots on either side, punctation not coarse but dense, usually brownish pubescence horizontally arranged from median line, and with denser white hairs on either side and near lateral margin, forming four white vittae. Scutellum usually reddish brown with a few hairs. Elytra widest at humeri with a definite hump behind scutellum, tapering to apex, which is narrowly pro-

longed into two slightly divergent tips; pubescence not so dense as to hide greenish lustre of surface or the punctation, which is not very dense and has a tendency to be striate; some horizontal ridging, pubescence usually brownish with white patches of denser hairs arranged irregularly in four rows on each elytron. Body beneath covered, especially thickly on sides, with white pubescence. Length 7.3–10 mm.; width 3.4–4.7 mm.

Type: In British Museum (Natural History).

Type-locality: Colombia.

Other localities: TRINIDAD: St. Augustine, June 16, 1944, on *Cordia*, A. M. Adamson; Port of Spain, July 1907, O. W. Barrett; Trinidad, F. W. Urich, Augustus Busck; Caroni River, Oct. 12, 1918, Harold Morrison. GRENADA: June, A. Busck. VENEZUELA: Santa Rita, Edo. Aragua, June 25, 1943, on *Gossipium hirsutum*, G. V. Berthier; La Providencia, Maracay, Apr. 5, 1933, L. F. Martorell; Acarigua Portuguesa, on *Psidium* sp. COLOMBIA: Villavicencio, June 10, 1938, H. Dybas; Villanueva, July 9, 1938, H. Dybas.

Remarks: In general, this species has a browner appearance than *G. aeneipennis* because of the pubescence, but otherwise it is difficult to distinguish by its external form. The pubescence on the prothorax tends to form four white vittae. In addition to the differences found in the pubescence there is a more decided hump behind the scutellum. In *G. aeneipennis* this is not so developed. But the only certain way of distinguishing the two is by the shape of the apex of the aedeagus. In *G. fascicularis* it is triangular, and in *G. aeneipennis* it is rounded. There is no definite difference in their distribution nor apparently in their food plant, as in one instance, both species were collected at the same time on cotton at Santa Rita, Venezuela.

Glyptoscelis monrosi Blake

FIGURE 33

Glyptoscelis monrosi Blake, 1952, Act. Zool. Lilloana Inst. "Miguel Lillo," vol. 10, pp. 163–5.

Between 7 and 7.5 mm. in length, oblong oval, shining piceous, prothorax rather finely punctate with a median impunctate line and several round impunctate areas, elytra more coarsely and rugosely punctate, pubescence long and white with denser white patches in four lines on each elytron; antennae and tibiae and tarsi reddish brown.

Head with interocular space a little more than half width of head; lower front without much evidence of separation from upper, densely and finely punctate, with a trace of median line and with fine, closely appressed white pubescence, labrum yellowish or reddish brown. Antennae reddish brown, except the dark basal joint, not extending

much below humeri, outer joints distinctly wider. Prothorax with rounded sides, widest at base, convex, densely and finely punctate with a bare impunctate median line and several small round impunctate areas; pubescence moderately long and thick, covering surface. Scutellum black, with a few white hairs. Elytra convex with a short intrahumeral sulcus and no depression about scutellum; shiny, piceous, densely punctate with horizontal ridges between punctures; pubescence moderately dense and with patches of long white hairs in four lines on each elytron. Body beneath with long white pubescence, tibiae and tarsi reddish brown. Length 7–7.5 mm.; width 3.2–3.8 mm.

Type: U.S. National Museum no. 65355.

Type-locality: Rosario del Tala, Entre Rios, Argentina, December 1941, F. Monros.

Other localities: ARGENTINA: Gualeguaychu, Entre Rios, December 1941, Haldo; Santa Elena, Entre Rios, Jan. 18, 1912, G. E. Bryant.

Remarks: This is a more convex and a more densely pubescent species with more white patches of hairs on the elytra than *G. pinnigera*. Its median prothoracic line is more plainly evident too. It comes from Entre Rios Province, which is quite a different environment from that of *G. pinnigera* from the Chaco region.

Glyptoscelis pinnigera Blake

FIGURE 34

Glyptoscelis pinnigera Blake, 1952, Act. Zool. Lilloana Ins. "Miguel Lillo," vol. 10, pp. 165–6.

From 6 to 7 mm. in length, oblong oval, shining black, antennae and sometimes tibiae and tarsi reddish brown, prothorax about one-third wider than long, nearly as wide as elytra, lightly pubescent and finely punctate with remnants of a median bare impunctate line and several small round impunctate areas on either side; elytra more coarsely punctate.

Head with interocular space slightly more than half width of head, lower front not very distinctly separated from upper, finely punctate with usually a median bare impunctate line down front, pubescence brownish and white. Antennae extending slightly below humeri, reddish brown with the basal joint darker, seventh joint long and apical joints wider. Prothorax nearly as wide as elytra and not very convex (for the genus as a whole); rather finely and densely punctate with numerous small round bare spots, and often part of a bare median line; a fine feathery brown and white pubescence arranged horizontally from the middle. Scutellum with a few hairs. Elytra with a short intrahumeral sulcus, no depression or elevation about scutellum, punctation coarser than that of prothorax with horizontal

ridging between and, on either side of suture, in apical half, often a bare line parallel to suture, sometimes interrupted with patches of denser white pubescence; the brown and white pubescence not so dense as to hide surface. Body beneath with denser white pubescence, base of femora, tibiae and tarsi usually reddish brown. Length 5.8–7.2 mm.; width 3–3.6 mm.

Type: U.S. National Museum no. 65356.

Type-locality: Resistencia, Prov. Chaco, Argentina, F. Monrós.

Other localities: ARGENTINA: Mision Laishi, Formosa Prov., September 1950, Willink and Monrós; Santiago del Estero, Jan. 18, 1912.

Remarks: The wide and not very convex prothorax is the most distinctive character of this species. The three species *G. paraguayensis* Jacoby, *G. pinnigera*, and *G. monrosi* Blake are all very similar, but *G. pinnigera* differs from the other two in its broad, not very convex prothorax. It comes from the Chaco region. Beetles were observed by Willink and Monrós feeding on *Prosopis*. The species described by Schaeffer from Brownsville, Tex., was named by him *G. prosopis*, presumably because it too was taken on mesquite.

Glyptoscelis paraguayensis Jacoby

FIGURE 31

Glyptoscelis paraguayensis Jacoby, 1897, Entomologist, vol. 30, p. 260.
Glyptoscelis paraguensis, Clavareau, 1914, Coleopterorum catalogus, par. 59, p. 130.

About 7 mm. in length, elytra tapering to apex, widest at humeri, prothorax reddish brown, elytra faintly aeneous green; antennae and legs reddish brown; pronotum finely punctate with a median impunctate line; elytra more coarsely and distantly punctate; pubescence with brown and white hairs intermingled.

Head closely covered with brown and white hairs. Antennae extending below humeri, reddish brown. Prothorax with rounded sides, densely and strongly punctate with a median vertical impunctate line; reddish brown with brown and white hairs horizontally arranged from the median line, and obscuring punctation. Elytra widest at humeri and tapering to apex, with a pinched-in depression before the tip and a considerable thickness of white hairs producing a small prolongation at apex; pubescence on elytra of mingled brown and white hairs resulting in a mottled wavy effect; surface beneath with an aeneous green lustre; more coarsely punctate than prothorax and with horizontal ridging. Body beneath reddish brown, densely covered with white hairs. Legs reddish brown. Length 7 mm.

Type: In British Museum (Natural History).

Type-locality: Paraguay.

Remarks: The coloring of this species, of which only the type has been seen, differs from the coloring of *G. monrosi* Blake and *G. pinnigera* Blake in that the prothorax is deep reddish brown and the elytra have a distinctly aeneous-green lustre. In addition, the shape of the elytra is different in being more tapering, with a suggestion of a prolongation at the tip. The drawing of the type at the British Museum unfortunately was made on a smaller scale than for the rest of the species. The beetle, measuring about 7 mm., is comparable in size with *G. monrosi* and *G. pinnigera*.

Glyptoscelis gayi Lefèvre

FIGURE 39

Glyptoscelis gayi Lefèvre, 1891, Ann. Soc. Ent. Belgique, vol. 35, p. 270.

Between 8 and 9 mm. in length, oblong oval, shining black, prothorax densely and deeply punctate, without median bare line, elytra with very strong horizontal ridges, white pubescence on upper surface not dense or obscuring surface.

Head with interocular space more than half width of head, head coarsely and densely punctate, the suture about lower front separating it from upper front very indistinct, a fine white pubescence, labrum reddish brown. Prothorax strongly convex with lateral sides only slightly curved, widest at base, slightly wider than long, surface densely and deeply punctate with coarse round punctures over all, no median bare line, the white pubescence fine and not obscuring surface. Scutellum black. Elytra with deep intrahumeral sulcus, neither depressed nor elevated behind scutellum; surface very rugose with strong horizontal ridgings between rows of punctures, along side near apex a more or less distinct costa, which at apex unites with a vague subsutural apical costa in a small knobby prominence; pubescence fine, white, not obscuring surface. Body beneath with much heavier white pubescence, legs reddish brown. Length 8–9.5 mm.; width 3.5–4 mm.

Type: In Museum of Natural History, Paris.

Type-locality: "Chili (Santa Rosa)."

Other localities: CHILE: Serena, Coquimbo, Illapel.

Remarks: The drawing of this species was made from a specimen from the Monrós collection bearing the label "*Glyptoscelis Gayi* Ed. Lef. Auct. det. 1894." The locality is simply "Chili Gay." It is undoubtedly authentically determined. There are four specimens in the Frey Museum. These are the only ones examined by the writer. The species is distinctive because of the strong horizontal ridgings on the elytra, which are stronger than in any other species of the genus. The aedeagus is unusual in its long narrow tip. The punctation of the prothorax is deep and close.

Glyptoscelis gigas Jacoby

FIGURE 37

Glyptoscelis gigas Jacoby, 1897, Entomologist, vol. 30, p. 262.

Between 11.5 and 14.5 mm. in length, elongate oblong oval, not very shiny, with white or yellowish, closely appressed, scalelike pubescence, deep reddish brown to piceous, with dark-brown to piceous antennae and legs, densely and not very coarsely punctate, punctures with horizontal ridging in basal part of elytra; pubescence arranged in three vittate lines of denser scales on sides and middle of both pronotum and elytra.

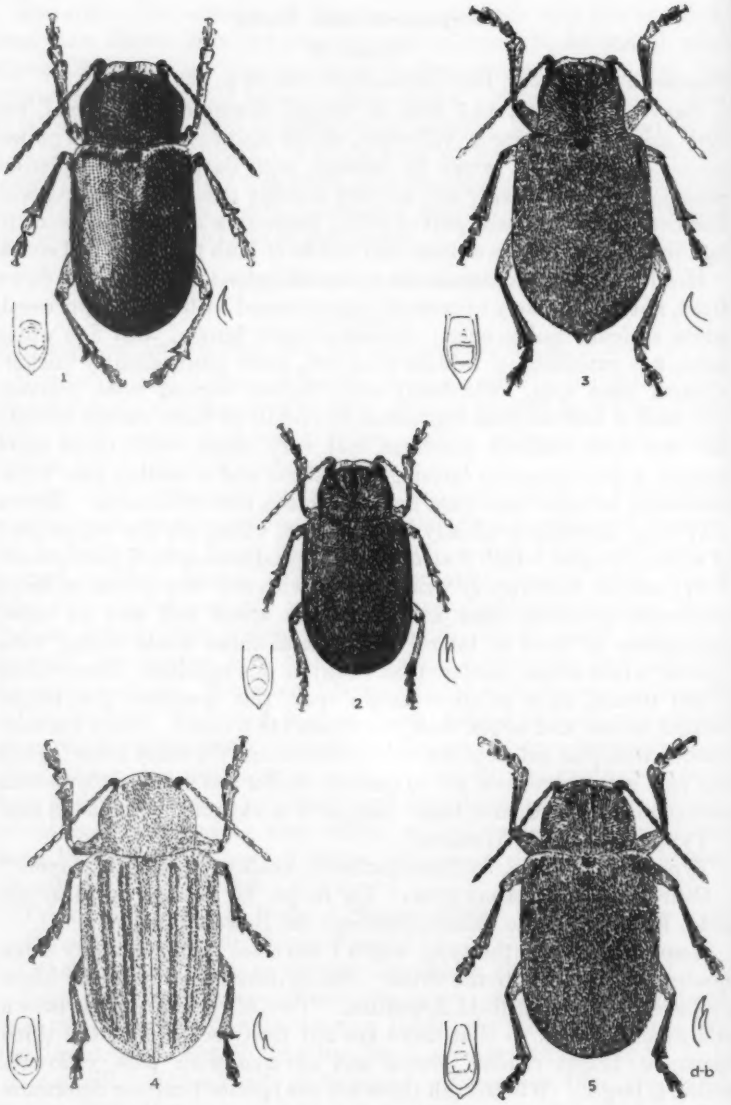
Head with eyes emarginate at antennal sockets, a median line down front, not very densely or coarsely punctate and with closely appressed, white, scalelike pubescence. Antennae dark brown, with fine white hairs, not extending to middle of elytra, outer joints slightly thicker, seventh joint long. Prothorax with slightly curved sides, convex, and with a well-marked depression in middle of base, rather densely and not very coarsely punctate, not very shiny, with three more densely pubescent areas forming two lateral and a median pale vitta. Scutellum broader than long, finely punctate, and with scales. Elytra very long, tapering gradually from humeri, which are the widest part of elytra, to apex, which is sharp but not produced as in *G. aeneipennis* Baly; surface transversely wrinkled and with not very coarse or dense punctures becoming finer and sparser in apical half and on sides, pubescence in form of lateral and sutural three white vittae, with sparser white scales scattered between; in one specimen these vittae widen toward apex to cover entire apex, this specimen also bright reddish brown and larger than the others (14.5 mm.). Body beneath covered with pale scales, in the reddish-brown one the entire lower (apical) half pale with pubescence, not so dense in darker specimens. Claws with very short inner tooth near base. Length 11.5–14.5 mm.; width 5–5.8 mm.

Type: In "Oxford Museum."

Type-locality: Brazil, "without particular locality, obtained by Myers."

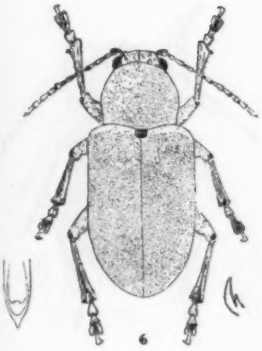
Other localities: ARGENTINA: La Rioja; El Borbollon, Mar. 13, 1944, F. Monrós; Rio Salado, Santiago del Estero, Wagner.

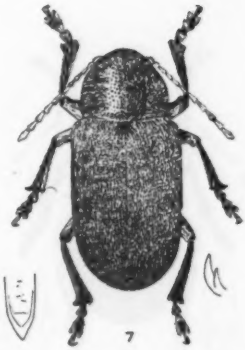
Remarks: Except the type, which I have not examined, only three specimens are known to the writer. These three are all from the Monrós collection, and all from Argentina. Two of them are dark brown and much rubbed, so that there are not many scales left, the third specimen, bright reddish brown and covered with pale yellowish scales, is larger. Whether all three are one species I cannot determine because of lack of material, but the one drawn, which is brownish piceous with white pubescence, corresponds with Jacoby's description. Jacoby wrote that this is the largest species not only of the genus but of the whole group of Myochroini. A new genus possibly may be erected for it at some future time.

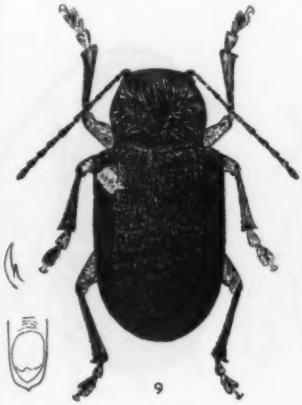


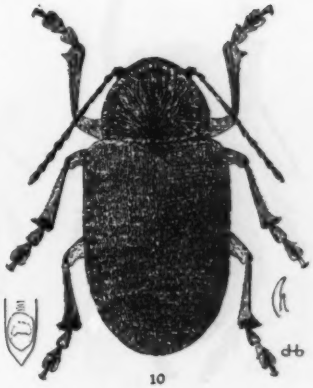
FIGURES 1–5.—1, *Glyptoscelis pubescens* (Fabricius); 2, *G. barbata* (Say); 3, *G. cryptica* (Say); 4, *G. alternata* Crotch; 5, *G. albicans* Baly.

G. cryptica

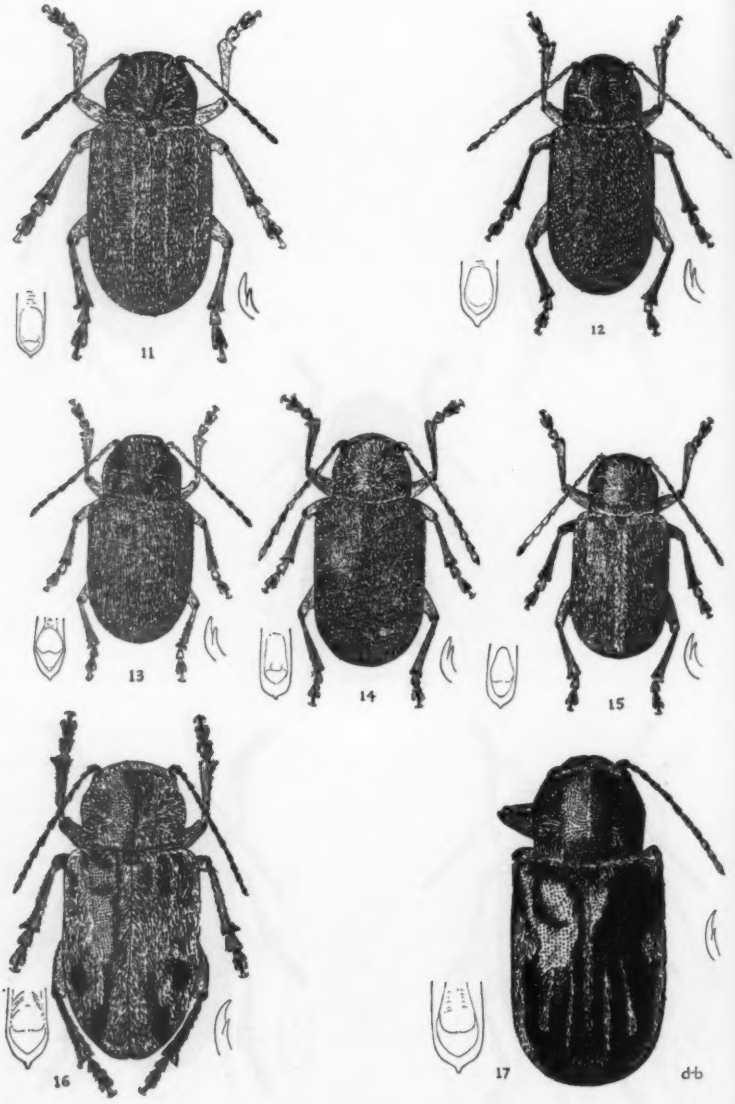




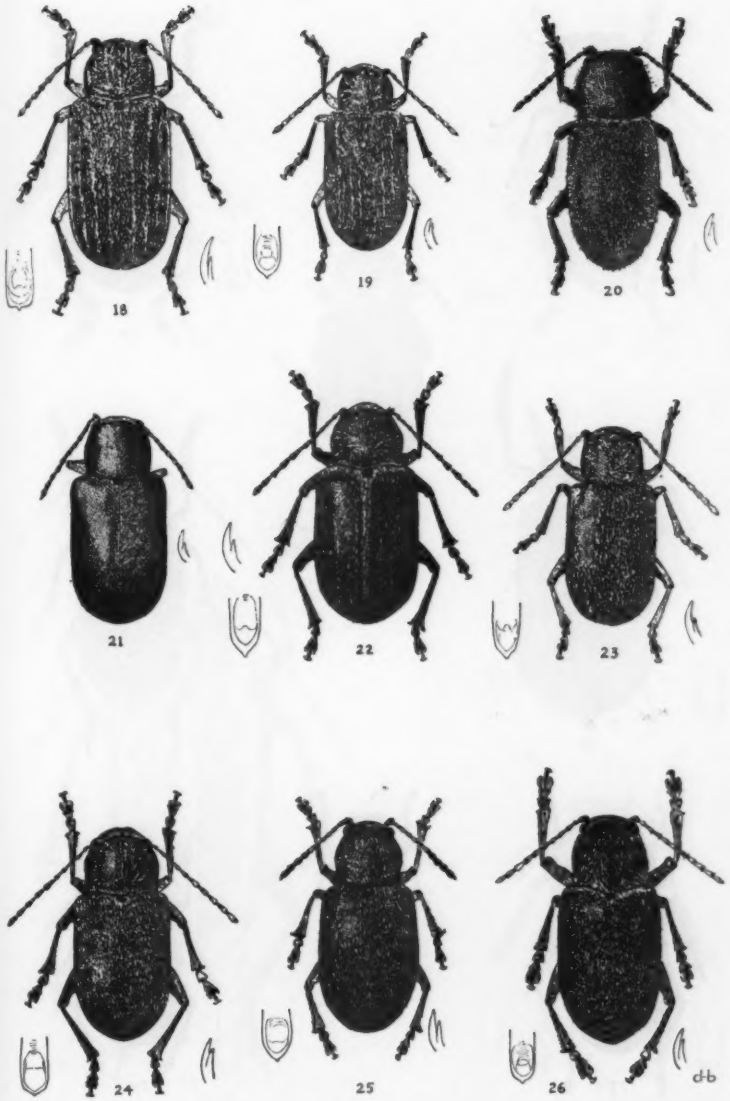




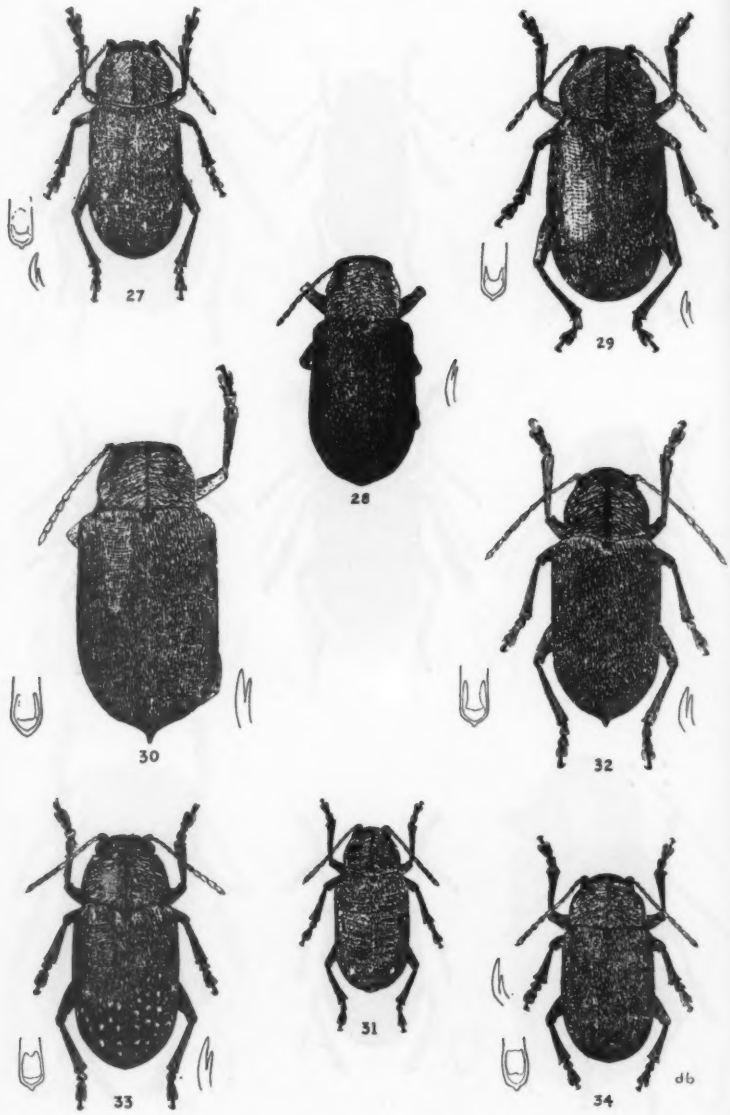
FIGURES 6–10.—6, *Glyptoscelis squamulata* Crotch; 7, *G. albida diabola* Krauss; 8, *G. albida* LeConte (type); 9, *G. vandykei* Krauss, new status; 10, *G. albida yosemitae* Krauss.



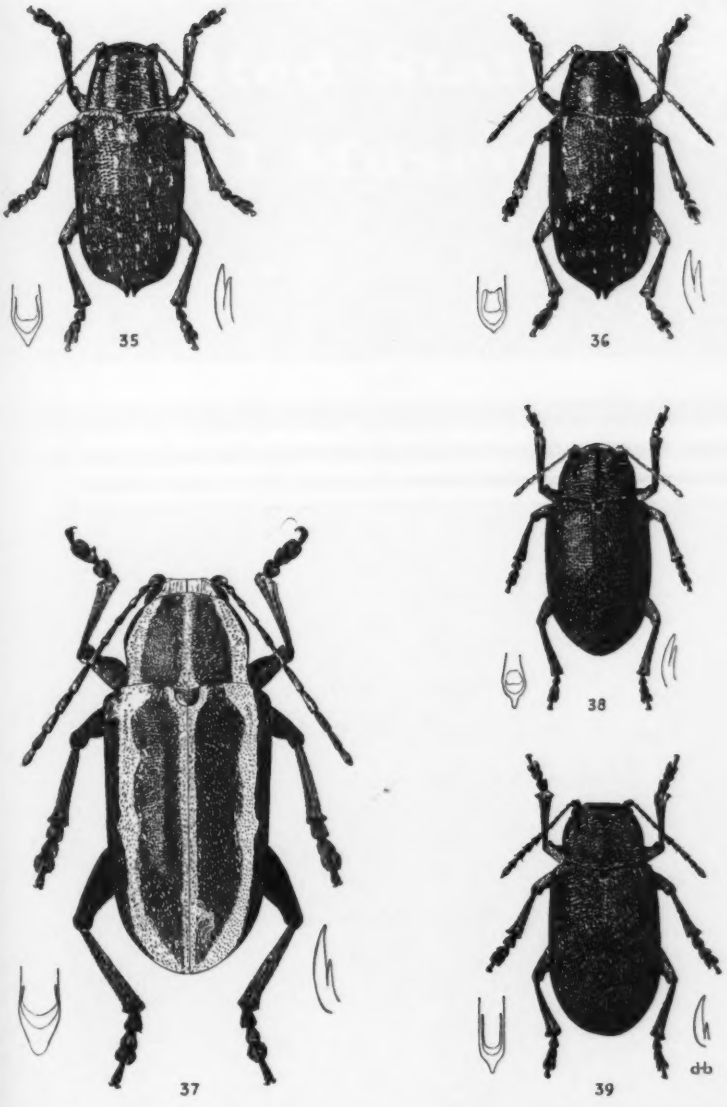
FIGURES 11–17.—11, *Glyptoscelis idahoensis*, new species; 12, *G. peperi*, new species; 13, *G. sequoiae* Blaisdell; 14, *G. juniperi*, new species; 15, *G. juniperi xanthocoma*, new subspecies; 16, *G. aridis*, Van Dyke, new status; 17, *G. illustris* Crotch (type).



FIGURES 18–26.—18, *Glyptoscelis artemisiae*, new species; 19, *G. paula*, new species; 20, *G. cylindrica*, new species; 21, *G. longior* LeConte (type); 22, *G. septentrionalis*, new species; 23, *G. longior* LeConte; 24, *G. coloradoensis*, new species; 25, *G. parvula* Blaisdell; 26, *G. prosopis* Schaeffer.



FIGURES 27–34.—27, *Glyptoscelis sonorensis*, new species; 28, *G. mexicana* Jacoby (cotype); 29, *G. cahitae*, new species; 30, *G. chontalensis* Jacoby (cotype); 31, *G. paraguayensis* Jacoby; 32, *G. guatemalensis*, new species; 33, *G. monrosi* Blake; 34, *G. pinnigera* Blake.



FIGURES 35–39.—35, *Glyptoscelis fascicularis* Baly; 36, *G. aeneipennis* Baly; 37, *G. gigas* Jacoby; 38, *G. dohrni* Jacoby; 39, *G. gayi* Lefèvre.

U.S. GOVERNMENT PRINTING OFFICE: 1967